



**General Certificate of Education (A-level)
January 2011**

General Studies A

GENA4

(Specification 2760)

Unit 4: Science and Society (A2)

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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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	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)	<p>Good response to question</p> <p>Good to comprehensive knowledge and understanding demonstrating overall grasp of the range and nature of issues (AO1). Capacity to interpret evidence and sustained ability to present relevant arguments, analysis and exemplification, focusing on the main points of the question (AO2). Some understanding of different types of knowledge, with some appreciation of their limitation in seeking to reach a reasoned and logical conclusion (AO3). Ability to communicate clearly and accurately in a fluent and organised manner (AO4).</p>
LEVEL 2	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). Moderate range of arguments, analysis and exemplification covering some of the main points of the questions (AO2). Limited understanding of different types of knowledge but some ability to work towards a conclusion (AO3). 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). Simple, perhaps mostly unexplained points – or very narrow range – with limited interpretation or analysis and exemplification AO2). Lacking in understanding of different types of knowledge with little or no evidence of ability to work towards a conclusion (AO3). Variable levels of communication and organisation (AO4).</p>
LEVEL 0	0	<p>No valid response or relevance to the question.</p>

SECTION A

01 Using the data and other information in Source A, discuss the potential advantages of recycling and whether it is being given sufficient priority in the United Kingdom.

(11 marks)

- There are six separate figures in Source A, each providing data / comments which might be used to determine the potential advantages of recycling and whether sufficient priority is being given to it. Answers, at each level, should be based on the interpretation of data/comments in Source A.
- Level 1 answers may be very brief / narrow and / or have a tendency to re-write the data/comments descriptively and possibly in some detail but saying little about potential advantages and recycling as a priority. If only a single figure from source A is used a maximum mark must be in Level 1.
- Level 2 answers are likely to cover at least 3 of the Figures in Source A, perhaps with a combination of some descriptive writing and some analytical comment in the context of examining potential advantages of recycling and trying to determine it as a priority.
- Level 3 answers will use data and information from most of the 6 Figures in Source A with clear and relevant interpretation and analysis leading to a brief but recognisable conclusion about the potential advantages of recycling and its level of priority.

Indicative content (key issues arising from the data and other information in Source A)

- Figure 1 uses a pie chart to show the variety of waste that finds its way into the bin and suggests the potential for recycling / composting.
- Figure 2 demonstrates how much is thrown away in household refuse and gives examples of how recycling can re-use materials, save energy, create jobs and save trees.
- Figure 3 goes into more detail stating that “60% of rubbish that ends up into the dustbin could be recycled”, the proportion of the cost of a product that goes on packaging, the amount of waste that could be composted and, perhaps crucially, states that “9/10 people would recycle more if it were made easier”.
- Figure 3 also provides detailed examples of recycling from aluminium, glass, paper and plastic highlighting issues such as the speed of recycling aluminium cans, the 100% recyclability of glass (which would not decompose in landfill), the limited air pollution produced by recycled paper compared with production from raw materials, the 24 trees it takes to make one ton of newspaper and the fact that plastic can take 500 years to decompose.
- Figure 4 is taken from the government’s detailed (and latest at time of setting) annual report on waste strategy indicating that, in the ‘waste hierarchy’, waste prevention and re-use are higher priorities than recycling / composting.
- Figure 5 shows how one very large council is trying to tackle recycling. Leaflets were circulated to all households with good use of visual impact and information about the availability of the leaflet in languages other than English. The pamphlet also points to waste that cannot, at present, be recycled.

- Figure 6 provides a telling map pointing to regional variations in recycling of waste ranging from 18% in London to 33% in the south west. Candidates may speculate, briefly, on the reasons for this.

Conclusion

The potential advantages of recycling are many but, to be fully realised, individuals need to be aware of the part they have to play and to be willing to do this bearing in mind inertia, collection methods and the fact that not all household waste can be recycled. Ideally, the government's main priority is waste prevention but recycling needs to play its part and Manchester is just one of many councils trying to get the recycling message across to residents in a form that could be widely understood. Having said that regional variations in the use of recycling are marked – perhaps unacceptably so – emphasizing the continued over-reliance in some parts of the country on landfill and incineration.

Any other valid point from Source A should be credited.

Not all points need to be mentioned to gain full marks.

02 Using evidence from Sources B and C, examine the issues faced by councils responsible for the disposal of domestic waste in the United Kingdom.

(12 marks)

- Level 1 answers are likely to be very brief, or written in a mainly descriptive (and / or general) fashion about waste disposal with very limited reference to the content of the two sources.
- Level 2 answers should show some limited analysis and demonstrate some ability to understand some of the issues of waste disposal faced by councils.
- Level 3 answers should provide clear and informed analysis and the ability to understand a range of issues faced by councils in determining how to deal with waste disposal.

Source B indicative content

- 111 million tonnes of controlled waste disposed of annually in landfill sites. Landfill disposal leads to the build-up of methane – a greenhouse gas which can make a significant contribution to global warming.
- Incineration creates carbon dioxide – another air pollutant.
- Anaerobic digestion method has potential but does create methane even though this can be burnt to generate electricity. Not widely used but forecast to increase.
- Composting of food and garden waste becoming more widely used by councils as a means of meeting targets for recycling and composting of household waste.

Source C indicative content

- Scale of problem is considerable (“Britons are Europe’s biggest tippers.”).
- Long-term reliance on landfill disposal. Convenient and seemingly cheapest option but this is a crude system in a technological age.
- Land available for landfill is running out within 10 years.
- New government targets designed to cut reliance on landfill. “Failure (to seek alternatives) means fines.”
- Second most common method of waste disposal is incineration but this is not a favoured option unless ways of extracting and re-using energy from the process are developed. Example of delays to Cory Environment proposal illustrate problems faced in bringing about change.
- Mechanical biological treatment (MBT) might be developed but not suitable for all waste.

Conclusion

Councils are aware that they cannot continue to rely on landfill which is environmentally undesirable, because sites are running out and they are very aware of the increasing cost of fines levied by the government on the proportion of waste disposed of in this way. Incineration in modern plants can help to re-use the energy created but new technology, in whatever form it comes, may require considerable investment. Greater reliance on composting household waste will pay some dividends on a smaller scale and Source C sees opportunities for private / European firms to act with / for councils – “legislation on muck is producing brass”.

Any other valid point from Source B + C should be credited.

Not all points need to be mentioned to gain full marks.

03 Using evidence from Source D, and your own knowledge, discuss the case for and against the policy of collecting household rubbish one week and organic waste the next week.

(11 marks)

- Level 1 answers might write in brief and / or general terms about refuse collection, perhaps with brief reference to alternate collections.
- Level 2 answers are likely to contain some limited analysis and exploration of the case for/against alternate collections. At the higher levels, evidence will be drawn from both Source D and the candidate's own knowledge. The case might not be equally balanced.
- Level 3 answers are likely to demonstrate a clear and informed understanding, exploration and analysis of the case for and against alternate collections, perhaps using examples and leading to a brief, but recognisable, conclusion. Evidence will be drawn from both Source D and the candidate's own knowledge.

Source D indicative content

- Use of a study undertaken by the Local Government Association which suggested that alternate collections led to a greater proportion of waste going to recycling than was the case in traditional weekly collections. Top 10 councils in recycling league all used alternate collections.
- Claim that alternate collections could produce substantial savings on landfill fees and greater reliance on re-cycling will help to address problem of shortage of space for landfill.
- Admission that alternate collections would be more difficult in built-up areas especially because of prevalence of high-rise flats and transient populations.
- No detail given of the nature / objectivity of the study concerned.
- Other surveys produce contrasting results highlighting environmental, health and safety concerns – potential effects on health of those collecting organic waste, possibility of increased asthma from extra dust, smells and an increase in the rodent population. (Latter challenged by evidence from South Kesteven which used wheelie bins instead of plastic bags.)

Possible points drawn from a candidate's own knowledge

- Fortnightly alternate collections have proved controversial and critics have accused councils of being interested primarily in cost savings. Councils point to the need to meet EU directives on recycling and the need to avoid fines.
- Opinion among residents is also divided. It is said that rats are more commonly seen especially where plastic bags are left around.
- Some newspapers, especially the *Daily Mail* see fortnightly collections as forerunners on schemes to make extra charges for refuse collection (bin taxes by stealth) or to levy fines on householders who fail to follow instructions – with undertones about 'Whitehall interference', 'government bullying', 'microchips in bins' and reduced 'quality ratings'.
- Some people can get confused by the system. Those who forget to put out food refuse at the right time can find it is left out, as a breeding ground for maggots and flies, for a fortnight.

- Evidence in June 2009 from The Place Survey of 500 000 people for the Department of Communities and Local Government found satisfaction with councils with weekly refuse collections 11% higher. Environment minister Hilary Benn countered by claiming that 78% of people were satisfied with their waste collection.

Conclusion

A report by MPs on the Local Government Select Committee expressed some concerns about alternate collections, indicating that some councils had “blundered into” such schemes with inadequate information to householders. The report confirmed that non-weekly collections were not appropriate for inner city areas and concluded that more research was necessary into the health effects of leaving rubbish in the streets. However, the UK lags behind many European countries in waste disposal and recycling and critics of councils are sometimes equally critical when councils fail to make savings.

Any other valid points from Source D or own knowledge should be credited.

Not all points need to be mentioned to gain full marks.

04 Using information from Sources E and F examine the role that can be played by shoppers and retailers in reducing food waste, excess packaging and the availability of carrier bags.

(11 marks)

- Level 1 answers are likely to rely more on description / narrative and a brief / generalised approach identifying only a few issues with limited use of sources.
- Level 2 answers will use one or both sources to identify and provide some limited understanding and analysis / discussion relating to the role that shoppers / retailers might play but this might cover only some parts of the question.
- Level 3 responses will do this in a more developed and evaluative way using both sources and covering all parts of the question, leading to a brief but identifiable conclusion.

Source E indicative content

- A one-woman attempt to see if buying foodstuffs from local suppliers, rather than supermarkets, can result in less packaging which becomes household waste.
- Underlines large amount of packaging used by many suppliers (“triple-packaged dishwasher tablets”) and especially supermarkets.
- Markets not “as virtuous as they once were” in terms of packaging items.
- Looking for alternatives can be more time-consuming and expensive than a trolley-dash in a supermarket. (Would other shoppers have the time and means to search around and pay more for their shopping?)
- Few shops like Unpackaged in Islington for package / waste conscious consumers to choose from.
- Many people rely on ready meals for a variety of reasons. Cassandra Jardine was unable to find less packaged alternatives.
- Some unpackaged items (“brownies, muffins and muesli bars”) were “crushed into an unappetising mush” because of lack of protective packaging – thus leading to more food waste.
- Success, if business are willing to try to use less packaging, may depend on consumers having “to relearn the art of carrying things carefully”.

Source F indicative content

- Supermarkets are undoubtedly doing a lot to champion an ‘eco-agenda’ in a variety of ways, competing to be greener than their competitors.
- One target is “to tackle the 6.7 million tonnes of waste that ends up in customers’ rubbish bins”.
- Claim by David North of Tesco that “a consumer-facing business... can play a great part in achieving a green revolution”.
- Julian Walker-Palin on Asda policy of reducing availability of carrier bags – an initiative “taken up quickest at Asda stores with the lowest-income customers”.

- Asda pledge to send zero waste to landfill by 2010 and creation of special taskforce to advise on “how to reduce packaging waste”.
- Mike Barry’s claim that M&S’s green policy has become cost neutral and that cost savings can offset green investment expenditure.

Conclusion

Much may depend on the willingness and means of consumers to make conscious decisions about cutting down personal waste, looking for goods that have less packaging and re-using carrier bags instead of taking new ones each time they visit a supermarket. Supermarkets are certainly trying to play their part, most notably in reducing the availability of carrier bags and looking at other green initiatives. Packaging is a difficult area to tackle. It often seems excessive but there may be hygiene / public health issues and some items need packaging for protection. The efforts of supermarkets seem to be genuine, perhaps reflecting something of a popular feeling (not always translated into action). Mike Barry may be right about cost-neutrality but supermarkets have a major responsibility to make profits for their shareholders.

Any other valid points from Sources E and F should be credited.

Not all points need to be mentioned to gain full marks.

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	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); well-structured, accurate and fluent expression (AO4).
LEVEL 3	13 – 19	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	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	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 related parts.
- Candidates need to answer both parts to gain access to the higher mark levels but need not do so in equal measures.
- To that extent, although following the above guidelines, and awarding one final mark, examiners may award up to 19 / 25 (maximum for Level 3) marks to candidates who have produced a particularly good answer to one part of the question (plus some credit for a much shorter / weaker answer to the other part) instead of seeking to divide the marks equally between the two parts.

SECTION B

05 ‘The simple fact is that organic food is little more than a middle class fad made more exclusive by high prices. Scientific research has proved that there is no advantage to the consumer in buying organic produce.’

Discuss the claim made above that scientists have proved that there are no advantages to the consumer in buying organic produce.

Explain why some people prefer to buy organic foodstuffs even though they cost more than non-organic equivalents.

Organic food production in the UK is now worth more than £2bn and is controlled by strict regulations that separate it from non-organic methods. Organic crops are not treated with chemical fertilisers or pesticides. Animals raised organically are not treated routinely with antibiotics and other drugs.

Indicative content for (‘Discuss the claim...’)

- A report in 2009, funded by the Food Standards Agency looked at published evidence over 50 years of the different nutrient levels found in crops and livestock from both organic and non-organic farming and also at the health benefits of eating organic food. It was based on the hypothesis that eating organic food is beneficial to health. Its main finding was that organic food is no healthier and confers no significant *nutritional / health* benefits compared with conventionally produced food.
- The research methodology was questioned by campaigners for organic food such as the Soil Association, Britain’s main organic certification body. (Peter Melchett, policy director of the Soil Association, described the FSA Report as “bad science”). Opponents claim that the study was selective and failed to take into account contrary evidence from a range of other studies. (A corresponding EU funded study came to the opposite conclusions indicating that levels of nutritionally desirable compounds such as antioxidants and vitamins, were higher in organic crops. Its conclusions were published too late for the FSA to take this into account.)
- Some observers argue that the debate about organic food is clouded by views which owe more to ideology than genuine scientific research.
- The reality is that scientists are some way from providing a definitive answer to the question of the advantages of purchasing / consuming organic food. Conclusive proof about the differences between organic and non-organic produce could only come from cohort studies over a lengthy period of time and it is unlikely that anyone would fund this. The use of the phrase ‘the simple fact’ in the question is totally unjustified.
- Much depends on how individuals interpret the word ‘advantages’. Some advantages of organic production methods may be more indirect than others. Organic food production may be good for the local environment, creating jobs and may be increasingly essential in the fight against climate change because of the ways in which soil is conserved, bio-diversity encouraged and greenhouse gas intensive nitrogen inputs are minimised.

There is strong evidence to suggest that organic farms have a much higher proportion of wildlife such as birds, butterflies and bees and there is far greater potential for high animal welfare standards.

Indicative content ('Explain why some people...')

- Organic food tends to attract premium prices but consumers have free choice and those that can afford the higher prices are free to exercise their choice.
- Irrespective of **some** research claims, many consumers *feel* that organic products do confer nutritional advantages.
- Feeling that the quality and taste of organic food are better.
- Desire to avoid contact with pesticide residues.
- To avoid food additives / GM ingredients.
- More likely to be aware of where the food comes from and the need to reduce food miles.
- Wish to support producers who use more traditional methods.
- Production methods may involve better animal welfare.
- Concern for the environment.

Any other valid points relating to either part of the question should be credited.

Candidates do not have to cover all the points to gain marks in the highest level.

Conclusion

It may be that some people prefer to purchase organic food partly because of the association with social exclusivity and a feeling of 'one-upmanship'. It may be that some producers have scented a clear commercial advantage in charging premium prices.

However, to describe it as a fad is far too simplistic. Researchers will continue to argue over the likely health promoting and nutritional benefits of organic food. Irrespective of that there are a number of environmental benefits of organic food production, and this may be an area where people are guided as much by personal taste, instinct and intuition as by what are claimed to be scientific facts.

06 ‘The image of sport has become tarnished. Money and commercial interests dominate and footballers, in particular, are grossly overpaid. Cheating, sometimes involving the use of performance-enhancing drugs, is increasingly common.’

To what extent do you agree with this assertion?

Discuss whether it is possible, or desirable to return to an age when sport was dominated by enjoyment and ethical behaviour.

Indicative content (‘To what extent...’)

- We are dealing with an assertion and a gross generalisation – both of which are unwise and dangerous in a discussion.
- Nevertheless, there is a widespread feeling that commercial considerations – often those of sponsors who pump much money into sport in return for world-wide exposure – are over-influential (e.g. Sky TV influencing sporting start times, frequent arguments between promoters and car companies in the world of Formula1 motor racing etc).
- Yet without the often huge sums of money provided by sponsors, sport would be in a position faced by the arts. Without sponsorship there would have to be a much larger element of self-finance (mostly through even higher admission prices) and / or dependence on state funding (as was the case in preparing some British athletes for the 2008 Olympics – where the UK enjoyed far more success than usual – and the 2012 Games...)
- Rewards for sportsmen and women are now far greater than they were in previous generations and it could certainly be argued that talent should be fully rewarded as it is in other occupational groups.
- Most high profile professional sports have stringent, random drug testing programmes although the extent that sportspersons take performance enhancing (and other) drugs is unknown. Athletics and cycling are two sports that have attracted adverse publicity. Improved scientific procedures have made it easier to detect most forms of drugs although it is often claimed that these have been taken medicinally and, therefore, accidentally.
- There is little or no scope for sportspersons to miss drug tests. Manchester United and England footballer Rio Ferdinand received a lengthy ban when he missed a test and the same applied to Bath rugby union players who missed tests in 2009.
- The case known as the Harlequins “blood” cheats in 2009 also had a very damaging effect on rugby with the resulting substantial fines, lengthy bans and resignations.
- Other forms of cheating (‘gamesmanship’) are highlighted from time to time e.g. ‘diving’ in football and ball tampering / allegation of betting fixing in cricket. (Richie Benaud, doyen of cricket commentators, has argued that what we see on the field and in the behaviour of spectators is a mirror of what is happening in society.)
- Rewards at the highest levels of many professional sports are often very high and there is great pressure on sportspersons, both personally and professionally, to win – some might claim ‘at all costs’.
- In the race between drug-takers and drug detectors, the advantage of “first move” is significant.

Indicative content ('Discuss whether it is possible...')

- The modern 'cult of sporting celebrity' is often criticised yet millions of people seem fascinated by a phenomenon that brings in viewers and sells newspapers.
- Sport is big business and that is not going to change because it offers unparalleled commercial exposure. We will not return to the age, a century ago, of Sir Henry Newbold's 'Play up, play up and play the game.'
- Like business and industry, sport is now a global phenomenon promoted all over the world and beamed to our homes by the marvels of satellite technology.
- It can be argued that, for many years, sportsmen and women were underpaid. Professional footballers were restricted to a tiny maximum wage (£20 per week) before the 1960s and there were class divisions, reinforced by separate facilities in cricket, between 'amateurs' and 'professionals' (gentlemen v players).
- Audiences have changed. They are generally more affluent and often look for more entertainment and immediate gratification. Rugby clubs have more glamorous names and cricket has been transformed by the limited over game. Tennis and cricket now involves more 'fashionable' dress, technology has transformed cycling and the debate rages over the legitimacy of new swimwear.
- We must always remember the millions of people who participate in non-professional sport and who do so for the sense of camaraderie, greater fitness and enjoyment.
- The possible influence of large amount of monies wagered, worldwide, may need to be taken into account.
- Governing bodies in sport could take tougher and more consistent action.

Any other valid point relating to either part of the question should be credited.

Candidates do not have to cover all points to gain marks in the highest level.

Conclusion

Maybe there never was a 'golden age' of the gentleman amateur when 'the game was the thing'. Talent is a rare commodity and the laws of supply and demand operate freely. It could be argued that access to the top levels of sport is meritocratic and that sportsmen and women, whose career is necessarily short, should be allowed to earn as much as they can. (It could also be argued that the excesses of this might be limited by a 'salary cap'.) Professional sport will always be pressurised but it will not necessarily be performed unethically. Values change and 'slow motion replays' mean that all who participate are under far greater scrutiny than was once the case. Given the high stakes often associated with many professional sports, players may go to the raw edges of the rules, if not further.

- 07** ‘Because pandemic illnesses are rare, but may occur on a large scale, people inevitably fear the worst. It is essential that medical professionals and politicians co-operate to ease the fears of those concerned.’

Explain how the nature of pandemic illnesses and the beliefs about them create fear among the population.

Discuss the effectiveness of efforts made by medical professionals and politicians to warn, protect and care for individuals during the swine flu outbreak in the UK during 2009–2010.

Indicative content (‘Explain how...’)

- *Epidemics* (a more than expected number of cases in a community / region) are not uncommon but *pandemics* (epidemic that becomes very widespread, perhaps worldwide) are rarer. Since the pandemic ‘Spanish flu’ in 1918 there have been only two UK pandemics – widespread with a significant variation in the flu virus – in 1957–58 and 1968–70.
- The novel H1N1 ‘swine flu’ first appeared in the UK in April 2009 after a Scottish couple returned from Mexico where it originated. The first UK death was in June and, in July, the National Pandemic Flu Service was launched.
- The swine flu experienced in 2009–2010 (and into 2011) is a new virus (a new and highly contagious strain – Influenza A H1N1) which means that many people do not have the immunity they might normally have against seasonal flu outbreak. Unusually, swine flu did not necessarily hit older people disproportionately.
- The swine flu virus is easily spread by coughing / sneezing, by contact with contaminated surfaces, or by shaking hands with someone affected. Normally, flu viruses are much less likely to spread in summer (though not in 2010) because they are more fragile at higher temperatures.
- In the first few months of the 2009 outbreak, for reasons that have remained unexplained, swine flu was worse in Britain than the whole of the rest of Europe combined. It re-appeared later in 2010 but so far less severely because the anti-flu vaccine in 2010 carried some protection against swine flu. By March 2010, the pandemic had killed 16 000 people worldwide. Flu kills.
- Pandemics (and epidemics) plunge us into the unknown. Vaccines take six months to be manufactured and calculations have to be made well in advance of outcomes.
- By July, 2009, the government had to admit that swine flu could no longer be contained in the UK although it was not always easy to distinguish between swine flu and seasonal flu. (In 2010–11 there is H1N1, H3N2 seasonable flu and flu B.)
- Media reporting is sometimes sensational and, although it helps raise awareness, it can cause panic. In 2009–10, the government’s Chief Medical Officer warned against the danger of ‘hyping the risk’ although his own ‘worst case’ scenario did little to re-assure the population.
- We still have a folk memory of catastrophic events like the Spanish flu, the Plague and the Black Death.
- A major pandemic can both threaten life and produce severe disruption in the economy and provision of NHS services. Flu viruses swap genetic material with other strains and swine flu could merge with seasonal flu. In the winter of 2010–11 over 100 people in the UK have died from flu, most from the H1N1 strain (14.1.11).

Indicative content ('Discuss the efforts...')

- Senior civil servants in the Department of Health have relied for advice on groups like Scientific Advisory Group for Emergencies (SAGE) – a 20 strong committee of eminent scientists and doctors. The key question is how this is interpreted by politicians and what follow-up action is taken.
- Research scientists have a 'race against the clock' to develop successful vaccines in changing conditions but many people expect instant actions and results.
- The government needs to make early decisions about the number of vaccine shots to be ordered (usually in the spring) and the extent to which advertising is required. Each shot costs about £6 and national advertising (the 'Catch It, Bin It, Kill It' campaign) can be expensive at a time when significant cuts in public spending are being planned. In 2010, much of the vaccine was eventually stockpiled.
- Politicians and civil servants need to ensure that the NHS has appropriate contingency plans – especially in terms of protecting vulnerable groups / key personnel and ensuring that there will be adequate hospital facilities (intensive care and high dependency beds plus extracorporeal membrane oxygenation for the most ill) for the worst affected.
- GPs / hospital A & E departments are vulnerable and need to discourage people who think they have (swine) flu from swamping surgeries and A & E. Ironically, vaccine take-up rates among NHS staff are much lower than among over 65s and vulnerable groups – all of whom qualify for free injections.
- There were (mostly political) arguments in 2010–11 against the delayed advertising campaign and the shortage of vaccines in some parts of the country in early 2011 causing the government to release nearly 13 million doses of the Pandemix 2009–10 swine flu vaccine held in store.
- Swine flu is expected to remain a principal seasonal strain for many winters to come although US researchers claim that some victims of the 2009 swine flu developed protected antibodies against a variety of flu strains – something that might eventually lead to a single injection for life against all flu strains.

Any other valid point relating to either half of the question should be credited, including references to the situation early in 2011.

Candidates do not have to cover all points to gain marks in the highest level.

Conclusion

'Damned if they do and damned if they don't' is certainly one way of summing up the position of both politicians and medical professionals. There have been largely unfulfilled predictions of 'the next pandemic' for years prior to the 2009 pandemic – which itself turned out to be far less devastating than predicted. If government acts too soon it is accused of causing panic, perhaps unjustifiably. If it is more pragmatic it is accused of excessive delay. Action that successfully prevents a danger will sometimes be decried as unnecessary but if that action proves successful little credit may be given to politicians and medical professionals.

08 'If more people – parents, teachers, the drinks industry, politicians and teenagers themselves – took more responsibility society would be troubled far less by problems associated with binge drinking among young people.'

Explain why many teenagers find the consumption of alcohol and binge drinking so attractive despite its well-publicised harmful effects.

Discuss the methods that can be used to tackle the problem of binge drinking among young people.

Indicative content ('Explain why many teenagers...')

- Although alcohol is a depressant, teenagers seek the temporary highs that it can give.
- There is likely to be peer pressure to drink, perhaps excessively.
- (Binge) drinking is part of a culture for many teenagers.
- Some will like the element of risk – the feeling that they can usually break the law and get away with it.
- Drinking alcohol is almost a rite of passage – a passport into the adult world.
- Alcohol, especially as sold in supermarkets, is a relatively cheap way of getting a 'high'.
- Underage drinking can be quite difficult to control. Some pubs may be lax, teenagers can easily look older than they are and over 18s can be used to buy drinks for under 18s.
- More serious effects of excessive drinking are usually slow to emerge although specialists report a sharp increase in younger patients requiring treatment for alcohol-related liver disease.
- Adults may or may not take responsibility. Most schools have alcohol education programmes but these may not be taken seriously; parents find it difficult to exercise control – even if they want to; the drinks industry is trying to maintain trade at a difficult time; politicians face vested interests; teenagers themselves rarely like to be 'preached at' and are just as likely to rebel against adult advice as to follow it. There is clearly a limit to what any group can do.

Indicative content ('Discuss the methods...')

- Existing laws could be more rigorously enforced against drinkers and licensees.
- New 'alcohol ASBOs' introduced by law in Aug 2009 – drink banning orders on anyone over 16 covering pubs, bars, off-licences and public areas for up to 2 years. Deemed 'unenforceable' by Magistrates' Association.
- Penalties for breaking the law could be made more severe – for both purchasers and sellers.
- Local authorities could take specific action in their own areas as Oldham have done with pubs / clubs running cheap drinks promotions. Scotland has banned irresponsible alcohol promotions.
- The age at which alcohol can be purchased legally could be raised.
- Health warnings could be placed on the labels of bottles.

- More emphasis / funding could be directed to health education. Coalition government move towards minimum pricing – primarily to stop retailers selling alcohol below cost price.
- A new law could be enacted to introduce minimum pricing for alcohol.
- We could take a long, hard look at the underlying causes of the problem – not least by talking and listening to young people rather than demonising them.
- Look for alternative outlets for the teenage search for a high, buzz or thrill.

Any other valid points relating to any part of the question should be credited.

Candidates do not have to cover all points to gain marks in the highest level.

Conclusion

Under-age drinking is far from being a new problem. Binge drinking among young people is a more recent phenomenon. It reflects changing cultures and values, relative reductions in the price of alcohol and greater affluence among young consumers. Alcohol offers an 'outlet' for young people even if the consequences are usually undesirable; but draconian controls, favoured by some (such as the era of Prohibition in the USA), rarely offer a solution. The drinks industry is a powerful body and the government does get a considerable amount of revenue for drinks taxes. Nevertheless binge drinking has too many costs to leave unfettered – it just seems to be very difficult for those who share the responsibility to co-operate effectively.