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ASSESSMENT and QUALIFICATIONS ALLIANCE

General Certificate of Education

General Studies 2761

Specification A

GENA4 Science and Society

Mark Scheme

2010 examination - January series

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 meeting attended by all examiners and is the scheme which was used by them in this examination. The standardisation meeting 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 the standardisation meeting each examiner analyses a number of candidates' scripts: alternative answers not already covered by the mark scheme are discussed at the meeting and legislated for. If, after this meeting, examiners encounter unusual answers which have not been discussed at the meeting they are required to refer these to the Principal Examiner.

It must be stressed that a mark scheme is a working document, in many cases further developed and expanded on the basis of candidates' reactions to a particular paper. Assumptions about future mark schemes on the basis of one year's document should be avoided; whilst the guiding principles of assessment remain constant, details will change, depending on the content of a particular examination paper.

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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).
- *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		**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 the question.**

SUMMARY OF SOURCES

SOURCE A

Figure 1 The options: where Britain gets its power

Figure 1 shows the dominant role of gas and coal in the generation of British energy. Both produce polluting emissions. Nuclear power is a much more environmentally-friendly option but it is also much more controversial in terms of public opinion. Renewable energy sources contributed only 4% in 2007.

Figure 2 First coal-fired power stations for a generation to be given green light

The fact that the government appears willing to sanction the first coal-fired power station since 1984 may be indicative of its belief in a diverse source approach to future energy generation; a trust in the development of clean coal technology (CCT) which will be much more environmentally friendly; or an acknowledgement that the future development of nuclear power may be difficult.

Figure 3 Development of nuclear energy

Nuclear energy generation has continued apace since the 1970s with both the USA and France playing a significant role. In the UK it accounts for about 18% of the electricity mix. The rate of building new nuclear power plants decreased in most areas of the world but has recently increased as a worldwide nuclear renaissance emerges.

Figure 4 Nuclear power

Greenpeace traditionally support environmentally friendly power options but the pressure group is critical of the use of nuclear power on grounds of public safety.

Figure 5

(a) When Britain's nuclear power stations close

Indicates that the world's first commercial nuclear power station was in the UK. However, a number of British nuclear power stations are ageing and 5 are scheduled to close (with significant decommissioning costs) by 2014.

(b) Power station construction costs

Gas-fired plants are relatively cheap to build – much more so than nuclear plants and more efficient (in terms of the amount of energy we get compared to that expended to produce it). Wind farms are 100% efficient but onshore wind farms are nearly twice the cost as gas-fired plants and offshore wind farms are even more expensive than nuclear plants.

Figure 6 Indicative pathway to possible new nuclear power stations

The time chart indicates the gap between policy discussion and consultation about the extension of nuclear power, through licensing and planning applications to the development of new plants and power output – a period of some ten years.

SOURCE B: British energy seeks partners for new wave of nuclear power plants.

There is little consensus about the most appropriate ways of generating the UK's electricity but one possibility being seriously considered is the development of new nuclear power stations to minimise CO_2 emissions. However, the updating and expansion of the stations will be very expensive and British Energy has been looking for partners willing to invest.

Although existing power station sites can be used, new / extended plants take 10–15 years to become operational and new nuclear power stations will need to utilise water-cooled, rather than gas-cooled, reactors.

As electricity prices rise, the situation becomes more urgent but there is opposition from environmental groups such as Friends of the Earth who are concerned about waste disposal while public / political opinion about the nuclear option is, at best, ambivalent.

SOURCE C: Where does he find the energy?

Energy minister Malcolm Wicks is worried about rising energy costs and their impact on vulnerable groups such as the elderly, especially as oil prices continue to rise. In addition, the UK government is committed to an EU agreement to generate 15% of its energy from renewable, non-fossil fuel sources by 2020.

One alternative, a possible barrage across the Severn, has already angered the RSPB but opposition to building new, low-carbon, nuclear reactors has resulted in much more vocal opposition. Only the French-owned EDF has shown interest in a co-financing scheme so the issue of power generation, though increasingly urgent, remains unresolved.

SOURCE D: Nuclear threat to world 'rising'

In 1947, the Chicago-based Bulletin of Atomic Scientists developed the idea of a symbolic clock. The closer the hands were moved towards midnight, the greater the estimated risk, according to scientists, of misuse for military / strike purposes.

In 2007 the clock was moved forward because of fears about a "Second Nuclear Age". More countries have – or threaten to have – access to nuclear power and these include politically unstable countries such as Iran, North Korea and Pakistan who are potentially hostile to the west.

SOURCE E : Search for site to take Britain's radioactive waste gets under way

One of the biggest concerns associated with nuclear energy is the problem of radioactive waste disposal. One of the methods suggested is deep underground burial and the government is keen to provide financial incentives for communities which might wish to participate in what would be a highly controversial scheme.

Such locations must be geologically stable and one of the most likely sites is the relatively isolated Sellafield nuclear complex in West Cumbria where the existing site is central to the area's economy. It is thought that the local community would be more receptive than most to a waste disposal scheme although other areas are likely to be considered.

SOURCE F (Withheld until examination)

This is the withheld source and helps to supplement information provided in Source E.

If Sellafield is identified as a site for the development of new nuclear reactors adjacent to the existing nuclear power station one option is to bury the waste and another is to convert it into reactor fuel. Objectors from environmental groups point to the dangers of transporting large quantities of radioactive waste across Britain to a single location such as Sellafield.

It is also claimed that construction costs of conversion plants would be high and that essential uranium stocks could become scare and expensive, although the latter claim is refuted by the government's chief scientific adviser, Sir David King, and it is known that Sellafield's Thorp reprocessing plant could be refurbished. After reprocessing, the waste could be used to power newly developed fast breeder reactors and eventually making Britain self-sufficient in nuclear fuel sometime after the middle of the 21st century.

SECTION A

1 How far do the data and other information in *Source A* support the claim that building more nuclear power plants is an essential part of Britain's energy policy for the 21st century?

(11 marks)

- There are six separate figures in Extract A, each providing data and comments which might be used as the basis of a discussion relating to the role of nuclear power in Britain's energy policy in the 21st century. Level 1 answers may be very brief / narrow and / or have a tendency to re-write the data / comments descriptively.
- Level 2 answers are likely to cover most of the Figures in Extract A, perhaps with a combination of some descriptive writing and some analytical comment in the context of examining nuclear power, with some possible reference to other options, in Britain's energy policy in the 21st century.
- Level 3 answers will use data and information from almost / all Figures in analytical form with clear analysis leading to a logically argued conclusion relating to the role of nuclear power, and other sources, in Britain's energy policy for the 21st century.

Indicative content

Figure 1 gives a clear indication that Britain gets its power from a number of Sources of which nuclear is the third most important source, some way behind coal and gas.

Both coal and, to a lesser extent, gas, are sources of potentially harmful carbon dioxide (CO_2). Nuclear energy does not have this disadvantage but remains a controversial option because of safety fears.

Figure 1 shows that the 'green option' – the use of renewable rather than fossil fuels, and primarily wind power, generates only 4% of power.

Figure 2 indicates that there might still be a significant role for new coal-fired plants especially if new "clean coal" techniques can be refined to contain CO_2 though critics are less sanguine about CCT techniques.

Figure 3 indicates the rapid growth rates, in some countries, of nuclear energy and does not foresee any difficulties in terms of supply of the crucial raw material, uranium. It also indicates that the rate of building new power stations slowed before entering a renaissance and increasing again. Public concerns following two well publicised nuclear accidents are also reported.

Figure 4 shows that the environmental pressure group, Greenpeace, will lobby against the extension of nuclear power on the grounds that concerns about safety and waste outweigh its lack of polluting emissions. It also claims that a new generation of nuclear power reactors will do relatively little, in overall terms, to reduce harmful emissions.

The map in **Figure 5** demonstrates the urgency of developing replacements for the nuclear power stations due to close in the next 6 years. **Figure 5** also suggests that, in cost of construction and energy efficiency terms, nuclear power is not necessarily the most suitable option.

The time line in **Figure 6** shows that consultation, planning and construction factors will mean that additional nuclear power generation is unlikely to take place for some 10 years.

Conclusion

Although there is a drive, in some quarters, to favour the development of new nuclear power stations, there are also a number of drawbacks in terms of costs, timing and potentially hostile public opinion. Alternatives such as coal and gas are well-established and technological advances may lead to renewed emphasis on coal. More emphasis might be placed on renewables by politicians keen to emphasize their green credentials, but at present, these may not seem to present a viable option for commercial development on a large scale. Nuclear power may well play a part in Britain's future energy policy but how far this is 'essential' is very much open to debate.

2 Using information from *Sources B* and *C* examine the difficulties of extending Britain's capacity to produce more nuclear power.

(12 marks)

- Candidates who write in a very brief, or mainly descriptive (and / or general) fashion about British nuclear power are likely to be placed in Level 1.
- Those who demonstrate some limited analytical and critical awareness of the difficulties of extending Britain's capacity to produce more nuclear power, using information from both sources will reach Level 2 (maximum of 6 marks if only one source is used).
- Those who provide critical analysis over a wider range with a clear focus on the difficulties inherent in extending Britain's nuclear energy capacity, based on both sources, will satisfy the criteria to be placed in Level 3.

Indicative content (Source B)

- Need to attract partners because of the cost of extending nuclear power capacity.
- May not be able to rely too much on future government funding of development.
- Pressure to act speedily because existing nuclear plant is ageing and becoming less reliable.
- Over-reliance in the past on outdated technology (e.g. gas-cooled rather than water-cooled reactors).
- Development of new capacity is a long-term thing whereas demand for additional power sources is much more short-term.
- Pressure of having to work towards EU environmental rules which will force many UK plants to close.
- Previous experience suggests that UK has found it difficult to keep within time and monetary budgets when building new plants.
- Public and political opinion not wholly supportive.

Indicative content (Source C)

- Details of criticisms made by environmental pressure groups opposed to nuclear development.
- Pressure on politicians to act quickly to seek an alternative to oil because of the effect of rising prices and instability of supply.
- Difficulties of attracting partners because of high development costs. Only the French group EDF remains interested and British Energy directors are holding out for more funds.

Any other valid points should be credited. Not all points need to be mentioned to gain full marks.

3 Using evidence from *Source D* and your own knowledge assess the likelihood of the use of nuclear weapons in the future.

(11 marks)

- Level 1 answers might write in briefly or in general / apocalyptic terms without ever really offering a balanced appraisal of the nuclear threat.
- Level 2 answers are likely to consider the likelihood of one or more countries and, perhaps, terrorists making use of nuclear weapons although much of the evidence suggests that either possibility is unlikely.
- More developed answers, at Level 3, are likely to demonstrate a clear understanding of the potential dangers of a nuclear strike from unstable political regimes of extreme terrorists while offering a wider perspective on the (un)likelihood of this happening.

Indicative content

- The Doomsday Clock offers one perspective but it may not be the most accurate one.
- A nuclear strike would totally alienate public opinion and invite massive retaliation.
- After the strikes on Japan in 1945 such utterly destructive / indiscriminate weapons have never been used again but few people have memories of the consequences of the bombing of Nagasaki and Hiroshima.
- Generally, nuclear weapons have been used as 'bargaining chips' in international politics. Would anybody be prepared to break the taboo that has existed since 1945?
- North Korea's need for economic support is far greater than its capacity to produce a nuclear bomb. Pakistan has enjoyed reasonably good relations with western powers. Iran's danger has been talked up by the USA and may be greater in rhetoric than reality. Israel defends itself vigorously against Arab threats and does make pre-emptive strikes but US influence is strong there. Nevertheless the parts of the world mentioned are all politically unstable and unpredictable.
- Building a 'dirty bomb' is a complex task and likely to be beyond the capacity of any terrorist group – unless it can engage the support of sympathetic or ideologically committed nuclear scientists. A terrorist group may present more danger than an individual nation and bomb making materials and expertise are more readily available.
- The 'global warming theory' outlined in Source D is very much an untested hypothesis.
- Although relations between the USA and Russia have become increasingly strained in 2008 after events in Georgia much depends on the approach taken by President Obama after January 2009. (Democrats tend to be less 'hawkish' in matters of foreign policy than Republicans.)
- The emergence of China as a superpower makes the international situation less predictable.

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

4 Using information from *Sources E* and *F* and your own knowledge, discuss the issues surrounding the disposal of nuclear waste in Britain.

(11 marks)

- Level 1 answers are likely to rely more on 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 / own knowledge to identify and provide some discussion relating to nuclear waste disposal perhaps referring to reprocessing and re-use of nuclear waste.
- Level 3 responses will do this in a more developed and evaluative way using both sources and own knowledge and offering a wider perspective including reprocessing and re-use of nuclear waste.

Indicative content

Own knowledge

- There are different levels of nuclear waste.
- Because it remains radioactive for so long, its disposal is always contentious.
- There are different proposals for disposing of nuclear waste, the most common of which are under the sea and deep underground.

Extract E

- Few communities (Sellafield might be an exception given its long links with the nuclear industry and the paucity of alternative employment in West Cumbria) will welcome proposals for waste sites in their area.
- Sites may attract terrorists.
- The SNP, which has a small majority in the Scottish Parliament (2008) has declared itself against locating nuclear waste disposal sites in Scotland.

Extract F

- Investment in a fuel reprocessing plant at Sellafield could mean that waste could be re-used as fuel after reprocessing. By 2060 Britain could become nearly self-sufficient in nuclear fuel.
- The Nuclear decommissioning Authority has admitted that there might be some 'downside' economic costs. Any reprocessing scheme is likely to involve considerable expense.
- Environmental lobby groups have expressed concern about transporting large quantities of nuclear waste across the country.

Any other valid points / arguments should be credited.
Candidates do not have to cover all points to gain the highest 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 (6)	**Good to very good treatment of the question** 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).
LEVEL 3	13 – 19 (7)	**Fair to good response to the demands of the question** Reasonable knowledge of topic (AO1); a range of arguments with some validity, appropriate illustrations with reasonable conclusions (AO2); some understanding and appreciation of material, nature of knowledge involved and related issues (AO3); mostly coherent structure and accuracy of expression (AO4).
LEVEL 2	6 – 12 (7)	**Limited to modest response to the demands of the question** Limited/modest knowledge of topic (AO1); restricted range of arguments and illustrations but some awareness and attempt at conclusion (AO2); little understanding and appreciation of material, nature of knowledge involved and related issues (AO3); weak structure and variable quality / accuracy of expression (AO4).
LEVEL 1	1 – 5 (5)	**Inadequate attempt to deal with the question** Very limited knowledge of topic (AO1); little or no justification or illustration, no overall grasp or coherence (AO2); inadequate understanding and appreciation of material, nature of knowledge involved and related issues (AO3); little or no structure / frequent 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 to gain access to a Level 4 mark. If only one part of the question is answered the maximum mark will be Level 3.

SECTION B

5 'Unlike governments, pressure groups such as Friends of the Earth and Greenpeace are not representative, nor are they responsible to anyone. Often they are little more than trouble makers.'

To what extent do you agree with this statement?

Discuss the difficulties in reaching general agreement about policies to protect the environment.

Indicative content (To what extent do you agree with this statement?)

- Theoretically, governments are broadly representative of, and responsible to, the electorate with a mandate to carry out promises set out in the party manifesto.
- Pressure groups represent a particular (and often narrow and sectional) interest and, although they may perform valuable functions, they are not responsible for taking a wider view.
- Government may seem big, remote and bureaucratic whereas pressure groups may appear to have a more direct link to their supporters.
- Opportunities to be involved in the democratic process are limited.
- Pressure groups may help to represent minority viewpoints more effectively than government / a political party.
- Pressure groups may offer more opportunities for direct participation.
- Pressure groups may not appear widely representative and responsible, but they must reflect their views otherwise they will lose support.
- Critics do describe pressure groups as "troublemakers" especially if they break the law or even take direct action. They certainly can be irritants in the body politic – but is that always a bad thing?
- Healthy democracies should offer opportunities to express alternative views and for individuals to take alternative actions.

Indicative content (Discuss the difficulties…)

- Consensus about many issues / policies is difficult to reach because people have different interests and values.
- The environment is a controversial area although it is widely accepted that actions must be taken now to protect the interests of a future generation.
- Global warming carries a number of threats, mostly related to global warming, but actions to reduce the threats have consequences which may be difficult to accept.
- The global economy is still geared up to producing energy from fossil fuels rather than renewables.
- The cost of making changes in energy generation technology is very considerable.
- The threat to the environment is greater over the longer / medium term. Politicians are elected for a shorter period (max 5 years in the UK) and their policies often reflect this.
- People genuinely and legitimately have different beliefs and values. Even a small minority of scientists argue that claims of threats to the environment have been overstated.
- Individual countries can do relatively little acting unilaterally. Countries which offer the biggest environmental threats – USA, China and India – are often least inclined to protect the environment.

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 at the highest level.

6 'Societies cannot advance without the research and development undertaken by scientists and technologists. Unfortunately, the effects of their work are not always positive.'

Explain why the results of the work of scientists and technologists may not always be considered positive.

Discuss the difficulties that scientists and technologists face in demonstrating that they are exercising moral responsibility.

Indicative content (Explain why the results…)

Without the skills and expertise of scientists / technologists society would not advance its store and use of knowledge – often for the public good.

- Scientists and technologists work involves the testing of ideas and working through hypotheses. The outcomes, particularly when applied over a wider scale, cannot always be predicted with absolute certainty.
- Often discoveries and developments need further refinement before their best and most reliable results are seen.
- Funding for research can be an issue e.g. if scientists are unduly influenced / compromised medicines may be marketed before trials have been fully completed to gain commercial advantage.
- Scientists and technologists are more likely to be concerned with developing scientific theories. They cannot always anticipate the wider application of the results of their works or all the likely consequences.
- Scientists and technologists, like any human beings, may be susceptible to temptation and may accept large sums of money from criminal sources in return for particular developments.
- Some scientists may, in the application of their work, seek to apply particular beliefs and ideologies.

Indicative content for (Discuss the difficulties…)

- Moral responsibility is not always easy to define. Philosophers, who might delight in debating it in conceptual terms, rarely have to apply it in a more challenging practical context.
- Should scientists and technologists be charged to accept moral responsibility when it is often others who may use science and technological work for improper, immoral or illegal purposes.
- Scientists cannot be expected to anticipate / predict all the likely outcomes of their work.
- Science and technological advances are often innovative, different and challenging. Moral boundaries are not always fixed and each advance may raise new moral questions which may not be easily resolved.
- Key issues involve different perspectives which are not always easily reconcilable e.g.
  - **GM food**: Frankenstein food or a viable way of feeding the world's poor?
  - **Atomic power:** a scientific discovery with such undesirable consequences that it should have been shelved or a bargaining tool as a weapon which, though used twice with terrible consequences in 1945, is used to prevent many other conflicts?
  - **Drugs:** legitimate and essential purposes or costly abuse?
  - **Embryo research:** a clump of cells with huge potential for tackling genetic diseases or non-legitimate research on a human embryo?

Any other valid points relating to any part of the question should be credited.
Candidates do not have to cover all the points to gain marks in the highest level.

7 'The future lies in a better educated and better trained workforce and a concentration of resources and investment in more prosperous parts of the United Kingdom.'

Examine what might be meant by a 'better educated and better trained workforce'.

Discuss the idea of concentrating resources and investment in more prosperous parts of the United Kingdom.

Indicative content (Explain what might be meant …)

- The education system is frequently criticised for it's 'failings' but these are not always made explicit other than in terms of deficiencies in key skills.
- It is often believed that schools and colleges can somehow solve social ills and problems that other services and individuals cannot.
- Employers frequently complain, not always without justification, that standards of literacy and numeracy are inadequate.
- Much hinges on the purpose of the education system. Is it about giving a wide education or should the emphasis be on basic literacy and numeracy and vocational training (perhaps in the form of the new Diplomas)?
- Should there be more emphasis on 'useful' subjects (often seen as subjects like maths, science and technology) which can be applied and which are more likely to contribute to economic advance) rather than subjects which are less practical and have more limited application?
- It is difficult to judge how much education / exams are succeeding (or not) because criteria on which such judgments might be based are contentious and often have to be applied in changing contexts. It is an area rife with subjective, anecdotal and sometimes whimsical judgments.
- In terms of exam success and the numbers entering higher education, more young people than ever are successful but there are accusations of 'dumbing down' and 'grade inflation'.
- Is success in education fully reflected in meeting targets and passing exams? There are other educational aims and achievements and there is a difference between education and training.
- It might be argued that key areas as diverse as relationships, money management and cultural awareness are the cinderella areas of education.

Indicative content (Discuss the likely objections…)

- Resources of many different kinds are unevenly distributed in the UK but, apart from some obvious examples, it may be more difficult to identify which areas are / not prosperous.
- Whilst there might be some economic advantages in establishing investment priorities linked to existing prosperity, this is likely to lead to diseconomies and 'over-development' in these areas with implications for transport, health and education.
- Such a theory would involve a degree of government power / control / intervention which would be unacceptable to most people and would represent political disaster.
- Certain parts of the country – mostly former centres of heavy industries such as mining, iron and steel and shipbuilding – would effectively be written off with severe social and economic consequences.
- The proposals would be inequitable and destroy principles of natural justice.

Any other valid point 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.

8 'The days when an individual country could determine its own energy policies have gone. The future lies in co-operation between countries, rather than competition and rivalry'

Explain why co-operation between countries might be necessary for the successful development of energy policies.

Discuss the difficulties involved in securing international co-operation rather than competition and rivalry.

Indicative content (Explain why co-operation…)

- Traditionally, countries have based their energy policies on the use of fossil fuels but their intensive use has led to concerns about using up reserves, harmful emissions and global warming.
- The problems associated with fossil fuels are global and all countries would benefit in some ways from a co-operative approach to the problems involved.
- Few countries have the resources to replace / modify their existing infrastructure/power generating systems.
- Developing new technology / systems (e.g. UK's plans to extend nuclear power) is complex and countries can establish co-financing schemes and also pool technical expertise.
- Competition can be wasteful if all countries are seeking common goals (e.g. how to harness renewables such as wind, water and solar power on a more commercial scale).

Indicative content (Discuss the difficulties involved…)

- As a goal it is unrealistic and even naïve. Economic systems are market-based and naturally competitive.
- Different countries have different resources and needs.
- Vested interests (in existing methods) are often powerful and can inhibit change that is not in their commercial interest.
- The world is made up of power blocs, often reflecting different ideological interests and national – rather than international – interests.
- Existing organizations (be they political or economic) for international support and co-operation offer only limited scope for significant co-operation because of exceptions and opt-out clauses.
- There are cultural and nationalistic considerations.
- Many voters look to responsible / accountable government based on the action of their own government not international organizations or alliances such as the IMF, World Bank, EU, UN etc.

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.