



General Certificate of Education

General Studies 2761
Specification A

GENA4 Science and Society

Report on the Examination
2010 examination - January series

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(GENA4 AS Science and Society)

General Comments

Senior examiners were unanimous in their praise for the positive way in which many centres and their students had approached this new examination and commented favourably on the overall quality of the work they saw.

The examination paper was similar in structure to the previous GSA6 paper with 4 compulsory questions on pre-released source material which formed a Case Study and a choice of 1 essay question from 4 titles. However, for the first time, centres were permitted to teach to the Case Study and candidates were allowed an additional 30 minutes, although answers to Questions 1 to 4 did tend to diminish in terms of length and quality as writing progressed.

The main area of weakness appeared to be in the responses to the essay questions. Quite a number of candidates showed an inability to write at length, to develop and sustain arguments and, perhaps above all, to include relevant supporting examples. It is Section B, in most centres, where many candidates appear to need both more guidance and practice in answering an extended writing question on a contemporary scientific/social science theme or issue.

The content of the examination paper had changed, integrating social, economic and political themes with those from the scientific disciplines. At the lower end of the mark range, candidates lacked both the knowledge and appropriate skills to meet the assessment objectives. By way of contrast there were many candidates who responded well to the challenge and a number scored high marks, particularly on the Case Study.

Individual questions

SECTION A

Question 1

Although some answers were rather long and didn't always focus fully on the question, this data handling and interpretation exercise was the best done of those in Section A. Weaker candidates tended to describe and summarise the different Figures which formed the source, sometimes bringing in evidence from other sources that did not form part of this question.

Stronger candidates looked at the evidence for and against nuclear power as an essential part of Britain's 21st century energy policy. The best answers concluded that the evidence was mixed – some favouring nuclear power; others pointing to the contribution of fossil fuels and the increasing importance of renewables as part of an overall energy policy.

Question 2

Answers to this question suggested that there are some candidates who do not appear to be acquainted with the sources when they enter the exam room and who make very little use of them. However, most candidates used the two sources concerned quite effectively. Lower scoring answers either didn't develop the points they identified relating to the difficulties of extending Britain's nuclear power capacity or produced only a narrow range.

Higher scoring candidates covered issues such as cost, the long planning process involved, objectors, technical issues, the claims of other energy sources and EU environmental rules in some detail, often concluding that the development of nuclear power sources had to be seen as a long term option.

Question 3

Many answers to this question seemed to think that the Doomsday Clock was close to chiming, such were the fears about the imminence of a nuclear apocalypse. It was widely believed that terrorists, in particular, would find little difficulty in gaining access to the materials necessary to produce a nuclear bomb. Should they fail, it was claimed that there was sufficient instability in countries such as Iran, North Korea, Pakistan and India to put the world at considerable risk.

Few candidates offered a historical perspective, arguing that after the American strikes of 1945 on Japan the horrors of the consequences of the use of nuclear weapons meant that their existence was primarily as a deterrent and making the chance of nuclear warfare remote.

Question 4

A number of candidates tended to write in fairly general terms about the problems of nuclear waste disposal. Had they spent more time on the two sources – with Source F providing the unseen source – they would have realised that Source E discussed issues connected with the burial of waste while the final source examined the reprocessing of waste so that it could be re-used. Irrespective of the favoured option, waste disposal remains one of the biggest obstacles to the expansion of nuclear power.

Individual questions

SECTION B

Question 5

This was the most popular question but it tended to produce the weakest answers. Most candidates, quite rightly, challenged the assertion that pressure groups were trouble makers. It was generally agreed that groups such as Friends of the Earth and Greenpeace had a role to play but few had any detailed knowledge about what it was likely to be or whether pressure groups could act in a representative and responsible way.

The second part of the question often proved even more demanding except for a small minority who knew enough to enable them to identify the nature of conflicting viewpoints in the political arena and the potential costs, both monetary and in terms of votes, of challenging the environmental status quo.

Question 6

The generalised nature of the writing that characterised many answers was indicative of the main weakness in Section B responses. Quite simply, too many candidates simply did not know enough either about the work of any scientists and technologists or the different ways in which they might be called upon to exercise moral responsibility in terms of the wider application of their work.

A minority of candidates, who had an interest in this area – and who might have been specialising in the sciences at A level – produced some very informed responses. These were based on examples from chemistry, physics, the biological sciences and, to a lesser extent, technology and pointed to the difficulties experienced by scientists in accepting the moral responsibility for others who used their work improperly, perhaps in a careless and destructive way. Such answers often demonstrated a mature and thoughtful approach

Question 7

This was a wide-ranging question looking at what might be meant by a ‘better educated and trained workforce’ and asking for a discussion on whether investment should be concentrated in more prosperous areas of the UK.

Some candidates had a really good knowledge of educational innovation, especially in vocational areas, but there was often an assumption that modern education was very closely aligned with a trained workforce – something that would lead to a better job. There was little consideration of the wider role of education and its broader purpose.

While a few candidates tried to make the case for focusing investment on prosperous areas, it was more widely argued that this would lead to misery, resentment and a further decline in areas which were already disadvantaged.

Question 8

This was also a popular question but it was again a case that too many candidates relied on generalised comments, often failing to provide any examples of countries that might or might not act cooperatively

While most candidates wanted co-operation in their ideal world, few really came to terms with the reality of politicians under pressure from their own citizens (and voters) to raise living standards and to gain maximum advantage from exploiting their own resources. Surprisingly few answers mentioned the recent climate conference at Copenhagen, what might have been achieved through the Kyoto Protocol, or even the significance of the European Union.

Few ventured into areas involving Fair Trade or Free Trade or even the relationship between the world’s richer and poorer countries and not enough was said about the essentially competitive nature that appears to be a feature of all societies. Once again, without more detailed knowledge and the use of appropriate examples, answers to essay questions will not receive marks above the Level 2 mark band.

Mark Ranges and Award of Grades

Grade boundaries and cumulative percentage grades are available on the [Results statistics](#) page of the AQA Website.