Pearson Edexcel

Examiners' Report
Principal Examiner Feedback

November 2021

Pearson Edexcel A Level

In Geography (9GE0)

Paper 3

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November 2021
Publications Code 9GE0_03_2110_ER*

Question Q1

This was generally answered effectively; both positive feedback loops and tipping points featured in the better answers. As in previous outings candidate performance was generally strong, as intended on these more accessible early questions on the paper.

Question Q2(a)(i)

The majority of candidates navigated these stats question without difficulty – a few didn't tackle it all and there were a few errors in the initial calculation of Chi-squared but they were the exception and not the rule.

Question Q2(b)

This was less effectively answered because of the lack of focus on reliability. Others suggested that the Jan/July data might be misleading without recognising the seasonal significance of that data. Valid points were made about the 5-year intervals and the risk that these years were unrepresentative of overall trends – obviously a legitimate point. Some embarked on critiquing the whole global warming debate which drew them away form the data.

Question Q3

The issue here was a lack of focus on what might constitute 'extreme'. This could have been read in several ways including, of course, the conventional sense that temperature changes at the poles are greater than elsewhere. There was evidence to that effect in the (Resource Booklet (RB), but it needed qualifying and deconstructing. For example, Figure 2 shows that since the beginning of this century Arctic temperatures have risen faster than the 'global' average change. The data on Figure 3 needs some work – for example the mean annual temperature change of $+0.1^{o}$ translates into an increase of $+3.6^{o}$ over the 36 year period 1980-2016. Most provided some of this AO3 interpretation of the evidence but then stumbled over how Arctic and Antarctic temperature increases might be constituted as extreme, both in terms of the data surrounding increase (please see the MS for more details) but also the extreme nature of this warming when compared, for example to past climate change in a pre-Anthropocene world. That needed to be drawn from their AO1 knowledge and understanding and, by and large, it wasn't.

Question Q4

As with Q3 the AO3 was generally competent but the AO1 less so. However, by and large it was stronger than on Q3. There was often a sound platform of AO3 built around changes in sea-ice and the data provided. The AO1 came from an understanding of the implications of this for sea-level rise especially, provided by Figure 5 which offered information about sea-level rise in the past which could be combined with the hint about 'long-term impacts' in the accompanying text. The other AO1 strand that proved fruitful was an understanding of the albedo effect and the consequences of reduced (Arctic) sea ice for that positive feedback loop. There were some good answers that addressed both this issue and the potential impact on low-lying nations of sea level rise.

Question Q5

As in previous years the issues raised by candidates' responses to the final two questions of this paper are fairly simple but important messages. The Resource Booklet provides a good deal of information and should provide a good platform for the development of the debate that the question stimulates. With this cohort, who in many cases would have lacked tutorial support during their preparation for these exams because of the pandemic, it was especially notable that they brought relatively little AO1 and, even more significantly, AO2 to their discussion. With 12 of the 18 marks available covering AO1 and AO2 the dominance of AO3 in many responses was notable and, of course, unfortunate in terms of its impact on the quality of those answers. In this question very few deconstructed the 'costs and benefits'. The few that did saw that these costs and benefits might be economic, environmental and even social and cultural. Notwithstanding the obvious complexities of these overlapping categories, it would have provided the framework for addressing the question posed which many lacked. The best answers also offered comparative examples of resources exploitation form their own studies making appropriate parallels to the challenges in Arctic and Antarctica. One answer drew on both Deepwater Horizon and the Albertan tar-sands to point out the environmental costs of fossil fuel production and suggested that 'it would be even more challenging to do this at the poles'. Another was able to argue that short term economic benefits might be outweighed by long term economic costs because of the probable impact of global climate so pointing out that costs and benefits do not fall evenly. For most, sadly, the only commentary came directly and sometimes verbatim from the resource booklet.

***Question* 6**

More or less the same commentary can be offered here as it was for Q5. The same over-dependence on AO3 with a dearth of AO2 or even AO1 recall and application to help answer the question posed. Having studied Topic 7 on the specification it is reasonable to expect some overarching understanding of the geopolitics behind resource exploitation. The majority of candidates were able to make statements about possible US/Russian or US/Chinese confrontation but very few could go much beyond simple assertive statements that lacked evidential support. The few that did mentioned potential and actual sparring contests in the South China Sea and a few alluded to tension between Russia and Ukraine. Some were able to comment that despite international law governing both the oceans and Antarctica these laws have rarely been tested and certainly not yet in Antarctica. The same students took a sensibly sceptical line about the prospects of international law working when it came to 'resource wars'. A number of candidates seemed comfortable with the impact of EEZ's in Arctic waters and could add detail to the material covered by Figure 11.

Unfortunately for many the absence of much AO1 or AO2 was telling with a good deal of Resource Book based repetition and statements that lacked support. Very few felt confident enough to add anything to the short term/long term aspect of this debate by trying to put some sort of time frame around this chronological concept. A memorably impressive answer offered the idea that 'in the next few decades technical advances may make it much cheaper to exploit Antarctic resources which may very well shift attention to this largely unexploited continent. However, at present, there are no serious prospects of exploiting resources here'.

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