A-LEVEL

Geography

7037/1 Physical geography

Report on the Examination

7037

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General

Both 7037 Papers 1 and 2 are configured in similar fashion and share a range of question styles designed to very closely target specific assessment objectives. The assessment objectives were the fundamental reference point guiding examiners in their judgements of student performance on this and the other Geography papers.

Centres are encouraged to refer to the *Notes and guidance: assessment objectives* which elaborates upon these Assessment Objectives, how students might best address them and offers advice on how students can be prepared.

In simple terms, on this paper multiple choice and short tariff questions targeted AO1 only i.e. knowledge and recall. There were two resource based questions; one type targeted AO3 (analysis of data) and one targeted AO1 and AO2 (knowledge and understanding applied in unfamiliar contexts). 9 and 20 mark questions targeted both AO1 and AO2 (with specific focus upon links within the specification which are not specified). One particular 9 mark question in this series, targeted links across the specification, these were found on both options in Section C (Question 5.7 and 6.7).

Students should be reminded that synopticity is tested through the application of knowledge both to unfamiliar situations and by exploring links within / across specification units. It is no longer the case that with such questions, it will be possible to see the particular reference to the specification area being targeted. The new approach to question setting means that the question itself will pull together different parts of the specification. Students will not be able to rely on recall only (AO1). Students therefore needed to 'think on their feet' in the examination and apply their knowledge and understanding to the context of the question.

The examination appeared to differentiate well between students of different aptitudes and levels of preparation. It allowed the strongest students to score well over with many comfortably achieving level 3 and Level 4 on the 9 and 20 mark questions.

The best responses quickly satisfied the specific requirements of any given question. Weaker responses tended to rely more heavily upon learned theory, concepts, processes and case studies. Whilst there is still credit for this, better responses more clearly evidenced the application of knowledge to the context of the question.

Effective use of time was an issue for some and there does need to be further practice on writing stamina in subsequent series. Some candidates' performance did tail off towards the end of the paper.

Despite the clear guidance and information issued by AQA prior to this series, some students did struggle with the different resource based questions. On the 6 mark questions which required analysis many tried to apply knowledge with limited success. Equally on the 6 marks questions with novel situations many simply lifted information from the resource without bringing anything new in their response i.e. applied knowledge – AO2. With greater familiarity and further practice, we hope and anticipate that this will be less of an issue in later examination series.

Overall, the paper did successfully differentiate between students but it also demonstrated a need for some to hone their skills around responding to the very clearly different assessment objectives demanded by each question.

Question 01.1

Those who failed to understand the concept of the cryosphere really struggled to get going on this question. Many accessed two marks for defining the concept and showing an understanding that warming will return more water to seas and oceans from stored water in the form of ice. Some went further and considered the role of permafrost in this regard. Others considered the concept of glacial advance and its role in lowering sea levels.

Question 01.2

This was a relatively straightforward question in terms of analysis of data. There were plenty of routes for students to explore – for example the rapid increase in emissions by upper middle income countries or the virtual no change data for low income countries and indeed, a slight decline. This was often accompanied by manipulation of data through minor calculations. Also, many responses looked to make an overarching statement i.e. that as wealth increased so did the production of GHG emissions. Some fell into the trap of explaining the changes. This constituted AO2 and was not credited on this question.

Question 01.3

This question was not particularly well answered. There was ample scope to explore a range of issues related to the graphic presented. Some considered the potential unfairness of large wealthy countries pulling out of the *Paris Accord*. Others considered the challenges of 'going green' whilst also trying to develop economically. Others compared Russia, China and the USA in relation to their relative positions on the *Paris Accord*. Others did little more than lift data and present information which was already given. This was accepted as application of knowledge. In simple terms, for knowledge to be applied something new has to brought which is not presented in the data. Anything else is either description of analysis and not credited here under AO1 and AO2.

Question 01.4

Most students did show understanding that human activity and natural variation can affect the water cycle in tropical rainforests. Many considered Amazonia and the major issues of deforestation and global warming. Links were often strong and processes considered in good detail. As long as the response clearly related back to the water cycle, credit was available. Some drifted into the carbon cycle with limited relevance. Also, whilst many referenced Amazonia, there was often very limited place support. Reference to the damaging impact of dam building or the positive impact of afforestation schemes (designed to restore the water balance) were specific ways that students could have been more place specific.

Question 02.1

This was the least popular option of Section B.

Those who considered the atmospheric circulation (e.g. the tri cellular model) were well on the way to credit, provided they understood the model itself. Some misunderstood the role of pressure and insolation on desert aridity. Continentality was another route to credit which few appeared to consider. Reference to dry descending air leading to high pressure was a basic but effective way to demonstrate understanding.

Question 02.2

This was a relatively straightforward resource with which to engage. Some issues did emerge in the way students expressed themselves. Reference to growing population *causing* the rain index to fall was clearly erroneous. However most were able to see the sense of connection between different aspects of the data and also the fact that relationships were not always evident e.g. the fact that some locust swarm events appeared to follow very dry periods measured on the rain index.

Question 02.3

In assessing the information students needed to apply their knowledge of factors leading to the formation of yardangs and apply this to the novel situation. As no reference was made to yardangs in the resource, that alone did constitute application of knowledge. Clearly the unconsolidated river and lake sand and mud beds have contributed to the formation of this landscape. However most did apply their knowledge and suggest that aeolian processes must have been dominant in shaping the characteristics and alignment of the yardangs.

Question 02.4

Most argued that climate change is on course to reduce the amount of water, but potentially increase the likelihood of flashy events. The best responses went on to link the presence or absence of water to the physical landscape; the development of salt pans and /or the development of fluvial features in deserts. Some also considered the potential for accelerated erosion because of flash flooding. In terms of human impacts: the desertification process; the impact on people of the southern Europe; the impact on agriculture were the main routes through the response for the stronger candidates. Incorporating clear and accurate place reference remains an issue for many students and did hold some back from accessing full credit.

Question 03.1

This was the most popular option of Section B.

Relatively few could offer a full explanation the development of barrier beaches. The idea of longshore drift transporting sediment between two headlands was the main route to credit. Others did consider the idea of an offshore bar rising up above sea level, or forming as a result of isostatic change. Such approaches were credited as reasonable potential causes. It is important that Students are familiar with the specification and its contents, particularly with regard to the multiple choice questions and these short knowledge testing questions. Relatively straightforward marks were lost by failing to understand the idea of barrier beach formation.

Question 03.2

This was not a particularly successful question for many candidates. They were simply required to analyse the data. This question was testing geographical skills and not the application of knowledge and understanding. Using the resource students simply needed to analyse what was taking place within the sediment cell. There was plenty of information provided including the longshore transfer, the input from local rivers, the loss by wind the erosion and deposition areas. Relatively few students took the opportunity to make some basic calculations to help with the analysis. Instead, many tried to apply knowledge or simply lift and describe information taken directly from the resource.

Question 03.3

Many were able to identify that the reduction in ice cover correlated with the increase in sea levels between the two resources. Good application of knowledge then linked this to isostatic and eustatic change. The best then linked this to landscapes of emergence and landscapes of emergence. Raised beaches and drowned valleys were referenced as indicative features in such landscapes. Some were even able to identify places on the map were such features were developing. This was all credited under AO1/AO2. Where students could not make such links, these responses tended to drift into describing the resource or generic processes.

Question 03.4

This question had a strong physical geography dimension to it. Those who understood the difference between weathering and erosion were in a strong position. Provided they could apply this to different landscapes and explain how these processes contributed to the landscape formation, they were in a strong position. A number could not distinguish between the processes. Finding credit in this situation was difficult. Place reference and detailed support was generally not strong, though case studies such as Holderness did emerge. Some students did consider the relative importance of these two distinct processes, and then considered depositional processes and the role of human intervention in coastal processes. This was credited as relevant in terms of the AO2 element of the question.

Question 04.1

This was the second most popular option in Section B.

Students either knew the process of internal deformation or they did not. The idea of ice crystals aligning themselves to the direction of movement and being forced to move under the weight or ice and force of gravity in cold based glaciers was the main approach taken. It is important that students are familiar with the specification and its contents, particularly when it comes to the multiple choice questions and these short knowledge testing questions. Relatively straightforward marks were lost by failing to show understanding the idea of internal deformation.

Question 04.2

Students did generally engage fairly well with this resource. They were able to understand the basics of the resource in that it showed temperature variation at various borehole depths. The main issue was that not many made good use of data in supporting points made. There was scope to do this by analysing range and variation between different borehole depths. Some spotted at that even at the lowest depth (19 metres), temperatures were shown to be rising over the period in the study. Some went on to explain the causes of this i.e. climate change. This constituted application of knowledge and was not being tested in this question - no credit was available.

Question 04.3

Students were free to argue either way in this question which was testing the application of knowledge and understanding to the novel situation. Some argued that glacial processes were dominating as evidenced by the moraine and evidence of the development of glacial features. Others focused more specifically upon the foreground and considered the role of fluvio-glacial processes in the development of the outwash plain, the sorting of sediments and the evidence of braided streams. Either approach was credited if coherently argued.

Question 04.4

Students tended to consider more human impacts in cold environments. Change in periglacial areas was one such avenue which many explored. They considered the economic impacts of melting permafrost as well as some positive impacts, such as the potential for agricultural extension or the opening up of seaways as sea ice melts. Others considered upland glaciation and the problems in ski resorts caused by a lack of snow as temperatures rise above 0^{o}C. The physical aspect this question came through less strongly in general terms. There were plenty of opportunities to do this by considering warming taking place in both ice sheets and upland glaciated areas.

Question 05.1

This option was by far the most popular of Section C.

Most identified C as the correct answer. There was no specific pattern in choice of distractor for those who chose incorrectly.

Question 05.2

Many failed to identify C as the correct answer. They either chose D (which is a seismic hazard) or B which is not an accurate description of how to manage a lahar.

Question 05.3

The key word in the question was ‘natural’. Many spotted that D was the correct answer. Some considered B to be correct, but of course built up areas are not places where wildfire is most likely to start.

Question 05.4

This was a very straightforward question for those students who knew the characteristics of tsunamis. B was the correct answer.

Question 05.5

The main point here was the two sources showed overlapping information but also both showed information that the other did not. The best approaches tried to analyse was common between both resources. However there was credit for identifying links within each data set. For example in **Figure 9**, there was some evidence that uplift did occur following periods of more intense seismic activity. A basic link in **Figure 10** was to see the correlation between the main faults and more intense seismic activity in the northwest of Yellowstone. The best answers looked closely at Sour Creek and tried to compare and contrast the two sets of information.

Question 05.6

The main issue here was in relation to what constitutes a primary and secondary impact of a volcanic eruption. Some failed to distinguish between them. More sophisticated responses suggested that it was not a matter of primary versus secondary but more an issue of where the event strikes. Links were then made to development and how different countries are able to respond according to economic factors. Case studies did feature, most notably the Icelandic Eruption of 2010 and Montserrat in 1997. These were generally incorporated well into the

response. It was also important to note that students needed to form a view in relation to the context of the question. Some clearly forgot to do this.

Question 05.7

This was question which tested the application of knowledge and understanding by drawing two distinct areas of the specification together. In this case it was *Changing places* and *Hazards*. Exogenous factors did feature in the responses of many candidates. They considered the exogenous factors at a variety of scales. Some argued that exogenous factors were those involving international aid organisations. Others argued that exogenous factors were those from outside the immediate area e.g. national government intervention through relief operations. Either approach was credited. Case study support tended to emerge through the events affecting the USA, Philippines and Haiti. Links to development were often made in considering the exogenous factors.

Question 05.8

Some students self-penalised here by referring to more than one multi hazard environment. This did not allow such responses to get to the required depth in such a relatively short amount of writing time. In considering the question, the best responses understood that human activity is always the underlying the cause. The fact is that an event only becomes a hazard when it affects people in places. It is the human occupation of the place which creates the hazard. However equally others argued that the underlying cause is often physical, for example referencing tectonic processes in the development of seismic hazards. Either approach was credited. Some students ran out of time and lost marks simply through poor time management.

Question 06.1

This was the least popular option in Section C.

C was the correct answer. There was no particular pattern in students selecting alternative distractors. If they did not know the answer, they appeared to guess at one of the three alternatives.

Question 06.2

Most identified the correct answer as C.

Question 06.3

Students either knew the definition of NPP or they did not. Those that did not, appeared to simply guess at one of the other three distractors.

Question 06.4

Whilst coral is found in other parts of the world, it is typically found in locations identified by option A. Most Students correctly identified this.

Question 06.5

As with the comparable option of 05.5, this was quite a challenging resource to access and process in a short amount of time. The best responses identified the information in **Figure 12**. They were able to link information within the resource to help show understanding of the resource.

Better responses also considered **Figure 11** and suggested that there was no particular correlation between the decline in top predators and over fishing in the fishing regions under investigation.

Question 06.6

Many simply described the impact of human activity upon natural environments such as the heather moorland in the UK. They considered deforestation and the use of land for the purposes of sheep farming and the development of game habitats such as pheasant for shooting. Such responses never really got to grips with the complexity of the question i.e. the seral stage development, the arresting factors of human activity and the resultant development of the plagioclimax.

Question 06.7

This was a question which tested the application of knowledge and understanding by drawing two distinct areas of the specification together. In this case it was *Global Systems and Governance* and *Ecosystems*. Students were unlikely to be able to develop specific strategies of international co-ordination in addressing threats to coral. However many did consider opportunities to co-operate on climate change as well as reducing pollution and action around minimising the impact of tourism and certain types of fishing. Others chose to counterbalance global action with local action. This was a creditworthy approach.

Question 06.8

The best responses took the opportunity to consider the threats affecting the savanna grasslands. They showed awareness of the development pressures, population pressures and the resultant impact on the natural environment. However, in terms of actual biodiversity, few responses actually considered the species being affected. Some did address big game and the loss of habitat, but few considered flora and the loss of habitat or the clearance of natural ecosystems for commercial farming. Centres teaching this unit should consider actual species of plants and animals which are affected by competing interests upon the land which they occupy. Sustainability did feature in many responses. They considered measures being taken to protect and conserve the natural environment whilst 'cashing in' on tourism. This was a valid approach and certainly addressed the terms of the question. Case study support did feature, but as with most of the longer tariff questions, it did not come through strongly in terms of depth and detail. This is certainly something which students should consider in preparation for future series.

Mark Ranges and Award of Grades

Grade boundaries and cumulative percentage grades are available on the Results Statistics page of the AQA Website.