GCE

Rewarding Learning

Chief Examiner's Report

Geography

Summer Series 2017

Foreword

This booklet outlines the performance of candidates in all aspects of CCEA's General Certificate of Education (GCE) in Geography for this series.

CCEA hopes that the Chief Examiner's and/or Principal Moderator's report(s) will be viewed as a helpful and constructive medium to further support teachers and the learning process.

This booklet forms part of the suite of support materials for the specification. Further materials are available from the specification's microsite on our website at www.ccea.org.uk.

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GCE GEOGRAPHY

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Overview

This was the first sitting of the new specification for AS Geography. There are now three rather than two papers, but candidates have benefited from the increased time allowance overall and the fact that each paper is more focused. Links do remain, thus it was disappointing that the El Niño question on the skills paper, AS 3, was poorly handled, since El Niño is part of the AS 1 specification. On a more positive note, candidates often performed better regarding fieldwork in AS 3 where that fieldwork was linked closely to the AS 1 and AS 2 specifications.

However, the examiners saw the appearance of some familiar problems. Candidates frequently get fewer marks than they should because they do not answer the question set. This might be because they do not take their answers through to a conclusion. Another issue is from failing to respond properly to the command words. One that caused particular problems was 'evaluate' and classroom time would be well spent in teaching the demands and expectations associated with that command word.

It is imperative that candidates focus exclusively on the demands of the question asked and do not waste their time in presenting redundant material that will not bring credit. 'The importance of planning cannot be overestimated', wrote one of the supervising examiners. Answers that consist simply of a learned response to the general theme of a question are less well rewarded than those from candidates who specifically answer the question. For example, a report on one question stated that: 'Those who tailored their material to address both aspects of the question clearly prospered'. Further, for AS 3 Question 2 (c)(ii) the supervising examiner reported that: 'Those candidates who took care when reading the question were often able to identify valid additional uses of satellite imagery in geographical studies'.

Another issue related to the detail in which candidates answered, particularly regarding case studies. It is important that candidates use significant detail/facts and figures to help them to complete their answer. One report was particularly strong: 'Reference to place is once again neglected by many… place seems to be an add-on and is not learnt by many candidates'.

The allowance of lines in the answer booklet is two lines per mark, but we realise that candidates with large writing or lots to say will have to exceed this ratio. Some candidates, presumably under instruction from their teachers, chose not to write beneath the lines provided but rather to secrete extra material at the back of the booklet. Whilst this is not a problem insofar as we look at all pages in the booklet to make sure everything is seen, it is surely more convenient for candidate and examiner alike if the answer is just carried on in the blank space inevitably available under the lines. As AS Geography is not examined online but by us reading the actual paper script, nothing can be cut off, so there is no need to worry about going beyond the lines allocated.

Assessment Unit AS 1 Physical Geography

As a new assessment model was launched with the introduction of this AS 1 examination, it is pleasing to report that centres and candidates adapted admirably to the paper, and many welcomed the increased time element. Candidates attempted all questions and examiners commented that the overwhelming majority of scripts were fully completed. The paper produced a wide range of marks, yielding appropriate differentiation between candidates of differing abilities. Although some of the questions posed obvious and essential challenges, the questions posed no particular barriers to comprehension. Most candidates responded positively to the range of question styles and resource materials. They provided written responses of a standard commensurate with what would be expected at AS level.

Section A

Q1 **(a)** Candidates appeared to engage fully with the resource material presented and many scored well in this question, providing thoughtful and well-developed responses. Many produced a detailed, descriptive analysis of the hydrograph and identified specific characteristics such as lag time, the peak discharge and both the rising and recession limbs. Attainment was maximised when accurate values were quoted to exemplify the trends depicted. All the optional drainage basin characteristics proved to be popular in their selection. Attainment could have been enhanced with the inclusion of greater depth and specialist terminology. Many weaker candidates confused drainage basin shape with basin size and thus provided erroneous answers. Some got the precipitation and discharge scales mixed up. Few could accurately explain the link between the impermeable rock type of the drainage basin and the hydrological response experienced following the storm event. Infiltration and percolation were sometimes mixed up. Those who selected urbanisation tended to produce an insightful explanation of relevant hydrological processes.

(b) This multi-faceted question proved fairly challenging for candidates. Many coped admirably with this descriptive component of the question and provided detailed analysis of fluvial erosion and depositional patterns along the course of the river. Again, the quotation of accurate values for exemplification of trends enhanced attainment. Candidates were able to access the description aspect with relative ease, though some did omit the trends, but the graphic was used for the most part. Many, however, were more hesitant in the knowledge-based component of this question. Only the most able proved capable of explaining how these processes contributed to the formation of the floodplain. Although, this landform feature is explicitly listed for study on the revised specification, many candidates appear to have only a superficial understanding of how it is formed. Few could explain how the generation of sediment through fluvial degradation could result in the downstream aggradation and accretion necessary for the development of the floodplain. The formation of this fluvial landform thus requires additional reinforcement within centres.

Q2 **(a)** **(i)** Almost all candidates correctly identified the final climatic climax community presented in the resources.

(ii) This question elicited some very good responses. Many candidates displayed a sound awareness of how this harsh, newly exposed environment could only be colonised by highly adaptive, tolerant, resilient pioneer species. Maximum marks were occasionally compromised when purely theoretical responses were provided, without any elicit contextual exemplification from the resource; others however were over reliant on the graphic - quoting lots of figure but saying really nothing else.

(iii) This question was well received and a high level of attainment was common when the candidates responded to both the descriptive and explanatory elements. Many excellent answers included both the recognition and explanation of modifications relating to soil variables such as depth, colour, nutrient status, moisture content, pH etc. Weaker candidates failed to make full use of the resource material or alternatively produced answers relating mainly to vegetation succession with a lack of focus on soil modification.

(b) (i) It was apparent that relatively few candidates had significant knowledge of the Tundra environment. A variety of topsoil characteristics were offered for selection, but the majority choose waterlogging, with many failing to mention the thawing aspect of the Tundra during the year. Most candidates provided a fairly generic explanation for the option selected. Candidates thus need to revise the Tundra soil profile more carefully to provide a more comprehensive explanation of their infertile, shallow, waterlogged, acidic topsoil conditions.

(ii) A competent descriptive analysis of the resource was commonly provided with a less impressive explanation. While many recognised that climate change accentuated ground subsidence in the Tundra environment, few could explain this environmental situation. Only the most able candidates developed the link between permafrost thaw, soil liquification, decreased stability of the soils active layer and the subsequent failure of the infrastructural foundations, relevant geographical terminology here was poor.

Q3 (a) (i) This question posed few problems. Candidates are familiar with the circulation patterns of the tricellular model.

(ii) This question was either well or badly answered. More able candidates referred specifically to convectional or frontal rainfall and produced a well-sequenced description of all of the processes, including an awareness of adiabatic cooling, relative humidity changes, condensation and the release of latent heat. Weaker candidates provided a simplistic response, lacking in specific terminology and occasionally lacking explicit reference to either of the rainfall types presented on the resource.

(iii) Most candidates could extract appropriate resource evidence in their description of the location of the polar front jet stream. Many accurately identified its latitude, altitude, or position in relation to the global circulation cells. However, only a small proportion of candidates were able to explain the importance of the polar frontal jet stream in the formation of mid latitude depressions and anticyclones. Very few answers provided a clear link between upper airflow and lower troposphere interaction. In many cases explanation was omitted and in other cases, it was deemed unfathomable. This aspect of meteorology can be considered complex and indeed challenging. Therefore, a little additional reinforcement is essential to enhance understanding.

(b) This straightforward question was poorly answered. The majority got the 'how' marks with ease, but the 'why' was just not there. An overwhelming majority of candidates simply recognised that temperature decreased with height and quoted the adiabatic lapse rate, but provided no explanation for the trend. Only a small proportion of able candidates competently related it to the decrease in atmospheric pressure. Some provided erroneous explanations relating to the effect of latitude or continentality.

Section B

Q4 This question was extremely popular and allowed for a high level of differentiation. Well-prepared candidates provided accurate and insightful answers, worthy of high marks. Those who tailored their material to address both aspects of the question clearly prospered. Many discussed a myriad of reasons for the introduction of channelisation with exemplification from a range of spatial contexts. A lack of breadth, depth or imbalance narrowed the potential for attainment. Weaker candidates provided a limited range of reasons for channelisation and others tended to produce a list, omitting the discursive element required. Many relied heavily on the Mississippi for spatial reference. Although a few candidates confused resectioning with realignment, it is pleasing to report that the channelisation methods on the whole were generally well understood. Differentiation was evident in the evaluative component of the question. Only a small minority of able candidates produced a reflective and insightful review of the environmental and economic consequences of the hard engineering techniques in relation to sustainability. Weaker candidates commonly identified the benefits of channelisation with a lack of appreciation of the negative consequences within the channel, further downstream or indeed for the future sustainability of the fluvial system. This evaluative aspect of fluvial geography thus requires some additional reinforcement within centres.

Q5 This popular and straightforward question was handed admirably by well-prepared candidates. Examiners were genuinely impressed with the knowledge and understanding displayed in responses, as well as the candidates' readiness to include specialist terminology. Popular case studies included Breenwood, Crawfordsburn Country Park, Lough Neagh and Cuilcagh Mountain peatland ecosystem. In explaining the functioning of their chosen ecosystem, the energy flow component of the answer saw many candidates fluently and cogently discuss energy fixation, transfer and loss, with a range of case study species used for exemplification at each trophic level. Occasionally well-annotated diagrams illustrating food chains, food webs or the trophic structure were introduced and welcomed by examiners. Some candidates were more hesitant in their discussion of nutrient cycling. Although many demonstrated an excellent understanding of the Gershmel model, and often produced a diagrammatic illustration, they struggled to include case study specifics for illustration, although credit was gained for an accurate theoretical understanding of the stores and transfers of nutrients. This dimension of ecosystem functioning may thus require additional reinforcement with the contextual framework of the small-scale ecosystem case study.

Q6 This question was very popular and many candidates approached it with genuine engagement and confidence. Katrina (2005) and Haiyan (2013) were the most popular case studies. A few candidates produced a lengthy and irrelevant discussion of hurricane impacts, but most referred to a wide range of management techniques. These included protective measures such as forecasting, warning, building codes, land-use planning, hazard mapping, education programmes etc. Occasionally, answers were purely descriptive with limited evaluative comments, which undoubtedly compromised attainment. For high marks, it was essential to review critically the protective measures implemented and reflect on their positive or negative aspects. Occasionally answers lacked structure and thus the importance of planning cannot be overestimated. Answers which provided lengthy discussions of post hurricane management and recovery operations lacked relevancy within the context of the question.

Assessment Unit AS 2 Human Geography

Section A

Q1 (a) (i) This was an accessible question. Most candidates were familiar with the trend that needed to be drawn in the Demographic Transition Model. Those who lost marks did so, most frequently, for not identifying that the death rate would rise above the birth rate in the final stage.

(ii) This question focused on the change in birth rate over time, but instead some candidates considered the birth rate over space by looking at the reasons for high birth rate in LEDCs and comparing these to the reasons for low birth rate in MEDCs. Candidates need to read the question carefully. Some answered the question by looking at birth rate and death rate, but the information on death rate could not be credited. Finally, some lost marks by not illustrating their answer with reference to place.

(b) (i) This was the most accessible part of Question 1. Candidates of all abilities were able to gain marks and many gave good geographical descriptions of the location of countries with antinatalist policies.

(ii) This section was less well answered. Many candidates named China as their chosen case study but they failed to explain fully one reason why the policy was introduced. Many wrote an historical description of China's changing fertility policies rather than focusing on one reason for its introduction. This affected their marks.

Q2 (a) (i) This was the most accessible section of Question 2. Candidates of all abilities could clearly see the changing trends in Tower Hamlets and Bromley and gave clear, succinct descriptions.

(ii) The question asked for two issues. It is unfortunate that many did not respond as required, some writing on three issues; others just one. In general, those that answered the question as set did so well using approprate geographical terminology.

(b) This was the least well-answered section in Question 2. Many candidates simply presented a list of urban descriptors followed by a list of rural descriptors. They failed to reference the idea of a continuum, which was the key part of the resources and the question. Other candidates lost marks through failing to incorporate their own knowledge and answered with a description of the resource. Again, focusing on command words needs to be stressed in the classroom.

Q3 (a) (i) This was the most accessible section in Question 3. Candidates of all abilities gained good marks. The few that did not, lost marks for not referencing all three groups shown in the resource.

(ii) This was answered well by more able candidates who knew their case study and clearly illustrated the reasons why it was an emerging economy. Weaker responses tended not to discuss a specific emerging economy but rather referenced all BRIC or MINT countries. Candidates need to use case study facts and figures to illustrate the points they are making.

(b) This section was answered well. Most candidates could correctly name a Millennium Development Goal. Candidates should know the correct name/ number of their chosen goal. Some only gave evidence why their goal has

helped improve global development, neglecting to identify ways in which it failed to improve global development. Candidates should be fully aware of the demands and expectations that come with the command word "evaluate".

Section B

The new specification continues the requirement for candidates to answer two questions requiring extended responses. These essays have continued to improve over the previous few seasons. Most candidates have practiced answering a range of questions and are well prepared. However, a small minority still either run out of time or choose to answer only one essay question. A common limit to attainment is because candidates fail to include enough specific case study detail.

Q4 This was a popular and well-answered case study. Most candidates could outline fully the two theories of Malthus and Boserup and offer an evaluation for both. It should be stressed that evaluations should contain evidence for and against. Answers needed to go into some depth to ensure that this was treated fully. Some had good depth and evaluation of Malthus but did not have the same level of information or depth on Boserup. A small number only outlined the theories and made no attempt to evaluate, this significantly limited their mark.

Q5 This question covered a new section of the specification that deals with the issues surrounding the potential development of a National Park within Northern Ireland. It was a popular essay choice and generally was well answered. Good candidates could clearly outline the arguments for and against a National Park in Northern Ireland – usually with reference to the Mournes – and did this with detailed information. The weaker candidates tended to focus on only one side of the argument and offered less information.

Q6 This was the least popular case study question. Some candidates found the requirement to look at globalisation and aid in the same question challenging. However, candidates did not have to have a balanced answer, although both elements needed to be present. The main issue with answers to this question was that candidates did not make a detailed enough description of how the roles of globalisation and aid worked within their named national LEDC case study. Candidates should know that simply writing every thing they know about, say, Ghana is not answering the question set. This question appeared to be better dealt with when the candidates discussed Tanzania, although in some cases the information was sketchy and lacked precision. Often answers failed to include a simple definition of globalisation or aid. Some responses were strongly focused on one process with only passing reference to the other process.

Assessment Unit AS 3 Fieldwork Skills and Techniques in Geography

While AS 3 is a new module, it does draw on Section A from both AS papers in the legacy specification. It came as no surprise, therefore, that many candidates appeared to be aware of the assessment objectives and were familiar with the paper's style, format and general requirements. Without doubt, the wealth of legacy past papers and mark schemes available via the CCEA Geography microsite had helped candidates to prepare well for this examination. The paper clearly allowed for a differentiated outcome and the level of language appeared to present no obvious barriers to comprehension. The majority of attached reports were focused on the aim with a few relevant hypotheses. Attainment was higher in centres where obvious fieldwork follow-up ensured preparation for questions relating to all aspects of the fieldwork process. Rivers and psammosere transects were most commonly investigated by candidates; alternative studies included investigations of micro-climate, woodlands and environmental quality surveys.

Q1 **(a)** Most candidates discussed a relevant fieldwork hazard and successfully outlined how it was identified, with many referring to a pre-site visit or the completion of a risk assessment. Disappointingly, only a small number of candidates discussed a plausible contingency plan, with most opting to discuss a minimisation strategy in its place. This restricted the mark that could be awarded for this component of the question.

(b) **(i)** Well-prepared candidates competently demonstrated their graphical presentation skills and full marks were commonly awarded. Occasionally, marks were lost when:

- the title lacked accuracy or precision;
- the dependent and independent variables were confused;
- the units of measurement were omitted from the axes of the graph;
- an inappropriate line graph was plotted when the x-axis variable displayed discrete rather than continuous data;
- the scaling of the x- and y-axis failed to encompass all values;
- graph-work lacked completion or displayed some inaccuracy; and
- the candidate failed to make sufficient use of the space provided.

(ii) Answers to this question were often disappointing. A small proportion of candidates failed to read the question carefully and discussed the primary data collection method for a variable not shown in their completed graph. No marks could be awarded in such cases. Candidates who studied changing soil characteristics (such as pH, moisture content and organic content) along a psammosere transect often focused on soil extraction and neglected to discuss laboratory analysis and, therefore, the collection of primary data.

The collection of discharge data was commonly discussed in this question. However, candidates often neglected one element of the discharge calculation, that is, either cross-sectional area data collection or velocity data collection. In such cases, Level 3 marks could not be awarded. In general, answers often lacked specificity and clear and convincing links to the candidate's own primary data collection in the field. Candidates must be reminded of the need to draw on their own fieldwork experiences in such questions.

(iii) This was an accessible question in which most candidates achieved good marks. Most were able to identify the trend shown in their graph and describe it using relevant values. Explanation of the findings was highly differentiated. Some candidates failed to attempt the explanation, just revisiting their aim. Most, however, were able to present valid explanations using relevant geographical terminology and geographical theory. Clearly, centres had taken time to prepare candidates for such a question. They have been rewarded for their efforts.

(c) This was the most poorly answered section in Question 1. Responses were diverse and depended on the fieldwork undertaken. Better answers, from well-prepared candidates, involved sound critical evaluation of the chosen factor in terms of the reliability of the data collected and the nature of the geographical conclusions reached. Unfortunately, marks were often restricted for a number of reasons, including:

- failure to include clear and convincing links to the candidate's own fieldwork investigation;
- failure to note how the chosen factor influenced, either positively or negatively, the reliability of the data collected;
- failure to make reference to the nature of the geographical conclusion reached as a result of the influence of the chosen factor;
- the development of hypothetical scenarios;
- suggesting modifications and/or improvements to the fieldwork undertaken; and
- presenting suggestions which actually conflicted with their fieldwork report and table of data.

It is imperative that candidates focus exclusively on the demands of the question asked and infuse their responses with clear and convincing references to their own fieldwork investigation.

Q2 Marks in Question 2 were often lower than in Question 1, perhaps because many candidates struggled to apply the general theory of Spearman's Rank Correlation Coefficient to an unseen set of data or due to limited practice using the choropleth mapping technique.

(a) **(i)** It is pleasing to note that the majority of candidates accurately calculated the correct r_s value. Occasionally, candidates lost marks when they:

- miscounted the number of countries (n);
- failed to complete the final step in the calculation (1 – 1.799) to determine the coefficient; and
- calculated the correct negative result but erroneously transferred a positive result to the answer line.

Most candidates secured maximum marks for their interpretation of the statistical result, with many successfully using the table/graph supplied to determine the significance level of 99.9%. Candidates who erroneously stated a positive coefficient were not penalised here, marks being awarded for the statistical interpretation of their own answer.

(ii) Candidates, generally speaking, struggled with this question. A considerable number provided lengthy analyses and regurgitated data provided in the table. No marks could be awarded in such cases. Most

candidates failed to explain the relationship between the two variables, that is, female enrolment in education and Total Fertility Rate. Instead, they focused on generic explanations for low fertility rates in MEDCs, such as increased access to contraception and the economic benefits of smaller families. Again, these responses could not be credited. Only the more astute focused on the relationship in question and explained that educated females are more likely to pursue careers, delay childbirth and have fewer children in total. They were rightly rewarded for their insight and focus on the relationship in question.

(b) (i) Most candidates correctly stated the mode [8%]. A small number of candidates erroneously performed a calculation or identified the mode as the highest value in the data set. Limitations were answers of a theoretical nature and which lacked connection to the data set in question.

(ii) A very poorly-answered question, with most candidates demonstrating little or no understanding of the choropleth mapping technique. The most demanding aspect of the question was the development of an appropriate key. While most candidates did use at least four categories, they commonly lost marks because of:

- overlapping values;
- misuse of greater than and less than symbols (</>); and
- failure to grade shading from lightest (lowest values) to darkest (highest values). Rather than using a graded scale, many candidates simply used an array of colours and treated this as a colouring-in exercise. They were, of course, penalised as a result.

Despite errors in the key, most candidates secured good marks for the application of their key. In a small number of cases, poorly developed keys could not be applied by examiners and, unfortunately, no marks could be awarded. More time needs to be spent in class practising the application of choropleth mapping to a range of data sets.

(iii) A well-answered question, with most candidates able to explain a valid limitation of choropleth mapping.

(c) (i) This was the most poorly answered section in Question 2. Candidates study El Niño as part of AS 1 Physical Geography, so there was an expectation that they would be somewhat familiar with resources like those presented. However, descriptions were often basic in nature and reflected a restricted understanding of El Niño-related processes. In a large number of cases, candidates:

- failed to read the stem of the question, which provided valuable information that would ultimately help candidates with the interpretation of Resources 2E and 2F;
- failed to accurately utilise Resource 2F in their descriptions; and
- were confused by the Eastern Equatorial Pacific Ocean's location at 80°W – 140°W.

Only well-prepared candidates who addressed the various demands of the question, utilised the range of resources presented, and emphasised the change in sea surface temperatures associated with El Niño were able to access high marks.

(ii) Despite a clear instruction in the question not to do so, a significant number of candidates discussed the use of satellite imagery in weather monitoring. No marks could be awarded in such cases. Those candidates who took care when reading the question were often able to identify valid additional uses of satellite imagery in geographical studies. Most, too, were able to provide a simple explanation and were credited accordingly.

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