AQA Qualifications

A-LEVEL
GEOGRAPHY

GEOG2 Geographical Skills
Mark scheme

2030
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Version/Stage: Final

Mark schemes are prepared by the Lead Assessment Writer and considered, together with the relevant questions, by a panel of subject teachers. This mark scheme includes any amendments made at the standardisation events which all associates participate in and is the scheme which was used by them in this examination. The standardisation process ensures that the mark scheme covers the students' responses to questions and that every associate understands and applies it in the same correct way. As preparation for standardisation each associate analyses a number of students' scripts: alternative answers not already covered by the mark scheme are discussed and legislated for. If, after the standardisation process, associates encounter unusual answers which have not been raised they are required to refer these to the Lead Assessment Writer.

It must be stressed that a mark scheme is a working document, in many cases further developed and expanded on the basis of students' 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.

Further copies of this Mark Scheme are available from aqa.org.uk

GEOG2 General Guidance for GCE Geography Assistant Examiners

The mark scheme for this unit includes an overall assessment of quality of written communication. There are no discrete marks for the assessment of written communications but where questions are 'Levels' marked, written communication will be assessed as one of the criteria within each level.

Level 1: Language is basic, descriptions and explanations are over simplified and lack clarity.

Level 2: Generally accurate use of language; descriptions and explanations can be easily followed, but are not clearly expressed throughout.

Marking – the philosophy
Marking is positive and not negative.

Mark schemes – layout and style
The mark scheme for each question will have the following format:
a) Notes for answers (nfa) – exemplars of the material that might be offered by candidates
b) Mark scheme containing advice on the awarding of credit and levels indicators.

Point marking and Levels marking
a) Questions with a mark range of 1-4 marks will be point marked.
b) Levels will be used for all questions with a tariff of 5 marks and over.
c) Two levels only for questions with a tariff of 5 to 8 marks.

Levels Marking – General Criteria
Everyone involved in the levels marking process (examiners, teachers, students) should understand the criteria for moving from one level to the next – the 'triggers'. The following general criteria are designed to assist all involved in determining into which band the quality of response should be placed. It is anticipated that candidates' performances under the various elements will be broadly inter-related. Further development of these principles will be discussed during the standardisation process. In broad terms the levels will operate as follows:

Level 1: attempts the question to some extent (basic)
An answer at this level is likely to:
- display a basic understanding of the topic
- make one or two points without support of appropriate exemplification or application of principle
- give a basic list of characteristics, reasons and attitudes
- provide a basic account of a case study, or provide no case study evidence
- give a response to one command of a question where two (or more) commands are stated e.g. "describe and suggest reasons"
- demonstrate a simplistic style of writing perhaps lacking close relation to the terms of the question and unlikely to communicate complexity of subject matter
- lack organisation, relevance and specialist vocabulary
- demonstrate deficiencies in legibility, spelling, grammar and punctuation which detract from the clarity of meaning.

Level 2: answers the question (well/clearly)

An answer at this level is likely to:

- display a clear understanding of the topic
- make one or two points with support of appropriate exemplification and/or application of principle
- give a number of characteristics, reasons, attitudes
- provide clear use of case studies
- give responses to more than one command e.g. “describe and explain..”
- demonstrate a style of writing which matches the requirements of the question and acknowledges the potential complexity of the subject matter
- demonstrate relevance and coherence with appropriate use of specialist vocabulary
- demonstrate legibility of text, and qualities of spelling, grammar and punctuation which do not detract from the clarity of meaning.

CMI+ annotations

- The annotation tool will be available for levels response questions.
- Where an answer is marked using a levels response scheme the examiner should annotate the script with 'L1', 'L2' or 'L3 at the point where that level has been reached. At each point where the answer reaches that level the appropriate levels indicator should be given. In addition examiners may want to indicate strong material by annotating the script as “Good Level…”. Further commentary may also be given at the end of the answer. Where an answer fails to achieve Level 1 zero marks should be given.
- Where answers do not require levels of response marking, the script should not be annotated. For point marked questions where no credit-worthy points are made, zero marks should be given.

Other mechanics of marking

- Various codes may be used such as: ‘rep’ (repeated material), ‘va’ (vague), ‘NAQ’ (not answering question), ‘seen’, etc.
- Unless indicated otherwise, always mark text before marking maps and diagrams. Do not give double credit for the same point in text and diagrams.

1 (a)(i) **AO3 – 4**	1 mark for each valid point made in relation to the pattern with additional credit for developed points. Beware crediting location instead of pattern E.g. There is a clear link between the pattern of flooding and the courses of some rivers, especially the Indus. The flooding appears to follow a pattern from the (north) north-east to the (south) south-west. The areas of major flooding are largely adjacent to the areas with minor flooding. Large swathes of the country are unaffected such as the south west of the country. None of the settlements is completely flooded but some (in SW and NE) have major/minor flooding. Some areas next to river confluences are completely flooded. There is no flooding along the upper courses of rivers. There are some areas of major flooding at considerable distance from the main rivers eg south of Quetta. To the north-east there is an area of major flooding which does not fit the trend of minor flooding in that area (d). There is a swathe of territory in the south which has minor flooding but includes small concentrations of land that are completely flooded (d). Max 1 for description of areas unaffected by flooding	***(4 marks)***
1 (a)(ii) **AO3 – 4**	1 mark for each valid point made. Max 2 for strength and max 2 marks for weakness. Credit one strength and one weakness only **E.g. Strengths** It is possible to clearly see the pattern (of which areas were most seriously affected by the flood). The colour scheme is useful in indicating severity. Using only three colours provides a simple overview allowing distinction to be made. There is **clear** identification of larger settlements and regions affected **E.g. Weaknesses** No actual data is provided in relation to the colour scheme. A Choropleth map for example would usually indicate this and improve this information being displayed. It is not clear what constitutes minor and major so further analysis is not possible. A broader range of colours linked to some clearly defined numerical value would add much greater clarity e.g. height of flood, homes destroyed, lives lost. The map may give a false impression of abrupt change at the boundaries of shaded areas. It implies that areas shaded the same colour all experienced similar conditions with no internal variation.	***(4 marks)***

1 (a)(iii) **AO1 – 3** **AO2 – 2**	**Notes for answers** This response does not require specific knowledge of the area in question. A generic understanding of the factors affecting river flooding will suffice. Credit Level 2 for clear explanation of one physical and one human factor. Expect physical factors to include: heavy rainfall such as found in Monsoon conditions; reference to antecedent rainfall and snowmelt as possible sources of water. Relief - lowland flood plain versus upland environment. Rock type - contrasting rock types and impact upon groundwater storage. Proximity to channel i.e. those areas further away are less likely to flood. Vegetation cover- increased interception and evapotranspiration, and reduced surface runoff in well vegetated areas. Human factors are likely to focus on the environments in which rivers typically burst their banks and consider human activities contributing to this. There are number of valid approaches here: • Deforestation with lower rates of evapo-transpiration • Urbanisation leading to increased rate of drainage and overland flow • Farming practices leading to ground compaction leading to increased overland flow • Poor river management strategies exacerbating flooding. • Credit reference to factors that may reduce flood risk **Level 1 (1-3 marks)** Lacking breadth and balance focusing upon only one factor. Lacking detail perhaps listing without development. Link between factor and flooding not explicit. Distinction between physical and human not explicit. CMI +annotation L1-identifies factor(s) L1-basic explanation L1-defines terms **Level 2 (4-5 marks)** Well-developed response which clearly distinguishes between physical and human factors with detail. Some development of at least one physical and one human factor. CMI annotation L2-development of factors L2-distinguishes between P and H factors	***(5 marks)***

1 (b)(i) **AO3 – 3**	1 mark per accurate plot (2 x 1) Range = 194 + 1 - 1 (1 mark)	***(3 marks)***
1 (b)(ii) **AO2 – 2** **AO3 – 2**	1 mark for each valid point made in the relation to the sequence. Reserve final mark for the completion of the sequence. **E.g. for interquartile range (IQR)** The data has to be first rank ordered from highest to lowest with the highest value ranked as 1 . The test can also be performed with the lowest value ranked as 1. Assuming the highest value is ranked as 1, the upper quartile (UQ) is calculated using the formula uq = n+1/4 ***th*** position in the rank order . The lower quartile (LQ) is calculated using the formula 3(n+1)/4 ***th*** position in the rank order. LQ is then subtracted from UQ to give the IQR . (Note that the 2 formulae are reversed if the lowest value is ranked as 1) Alternatively, use the dispersion graph to work out interquartile range. Work out the median value or middle ranking value (in this instance there are 19 values, so 10th value is the median) . Count the number of points above the median - the middle value for the top half of the data set (ie 5th from top) is the upper quartile (UQ). Count the number of points below the median - the middle value for the bottom half of the data set (ie 5th from bottom) is the lower quartile (LQ) . Subtract the LQ from the HQ to work out IQR . Some may use the actual data in Figure 2. This is acceptable, provided there is a sequence, full marks are available. Eg If the highest ranked value is 1st, and the lowest ranked position last, the upper quartile position is (19+1)÷4 (5th position), so the UQ is 346 (+or -1) . The lower quartile position is (3x20)÷4 (15th position), so the LQ is 254 (+ or -1). The interquartile range has to be calculated correctly based on the data used. (Answer range from 90-94)	***(4 marks)***

1 (c) **AO1 – 3** **AO2 – 2**	**Notes for answers** This is a skills based question which requires the candidates to infer from that which is clearly visible in the photograph. There is no credit if the suggested impacts cannot be directly derived from the photograph. Allow reference to short and long term effects Allow positive impacts eg addition of alluvium/increased fertility Allow issues of management and response to the flood if part of a logical sequence of ideas. Answers may seek to categorise impacts into social, economic and environmental. Credit valid annotations on photograph. Some potential impacts are as follows: • Flooded farmland is likely to lead to food shortages in the short – medium term. The government may ask for emergency relief to cope with this. • The roads are flooded making access to the area very difficult for emergency services. Alternative means of transport to bring supplies (or expert help) might be used e.g. helicopter. • The homes are clearly flooded. This is likely to lead to damage to property and also issues related to poor sanitation. This may be linked to short term serious health issues for the local population as water supplies may be polluted. There may be economic costs to homeowners. Some people may be displaced and become homeless. **Level 1 (1-3 marks)** A generic answer which considers basic impact(s) of flooding only tenuously linked to the photograph. Lacking detail on the link between what is visible in the photograph and the impact. May consider only one impact. May only describe photograph. CMI annotations L1 – identifies impacts L1- uses photo evidence **Level 2 (4-5 marks)** A detailed answer which clearly focuses upon the likely impacts which are evident from the photograph. Considers more than one impact with appropriate detail on impacts. CMI annotations L2- clearly describes impacts L2- interprets photograph fully	***(5 marks)***

2 (a) **AO3 – 5**	**Notes for answers** There must be an aim which is clearly geographical and also generated from within the specification. It should point towards an enquiry which can be realistically completed by a student, particularly in terms of time and scale. The method should be described in such a way that the reader could replicate it without any prior knowledge. E.g. To investigate the changing pattern of sediments across a shingle beach at location x, we sampled sediments along a transect, across a beach. We were trying to find out if there was any evidence of sorting of eroded material. Starting at the cliff line, we took our compass bearing to ensure that we kept a straight line. We then used a tape measure to mark out five metre intervals. At each interval along the transect we used a random number table to generate picking points for the sediments. We selected ten pieces of beach material at each point. We used Power's Index of Roundness to judge the angularity of the sediments. We then took measurements of the long axis, width and depth of each piece of material. **Level 1(1-3 marks)** A basic aim though this might not be clearly rooted in the specification. The method is described but is difficult to follow, perhaps giving a sense that the candidate either did not understand the method or did not undertake the method. Significant gaps in the method. Links between aim and method are implicit. CMI Annotations L1- Partial/piecemeal outline of method L1- Implied link between aim and method **Level 2 (4-5 marks)** A clear aim well-rooted in the specification. The method is detailed and clear. It is easy to follow, possibly with some obvious omissions at the bottom end. For full marks, it has to be able to be replicated in full from only the detail provided. Links between aim and method are clear and explicit. CMI annotations L2- Logical description. Method can be replicated. L2- Clear link between aim and method	***(5 marks)***

2 (b)(i) **AO2 – 2** **AO3 – 2**	Any technique can be used here. Credit appropriate features. E.g. for a bar graph allow 1 mark for: • appropriate title in relation to that which is being displayed • labelled axes (no credit if both axes are not labelled) • indication of appropriate scale on y axis • use of key or labelling (if appropriate and clear) • general accuracy of bars (drawn to similar width). E.g. for a pie chart allow one mark for: • appropriate title in relation that which is being displayed • appropriate size and shape of circle (including use of compasses) • accurate use of pie chart to display own data • appropriate key or labelling • Comparative pie if drawn accurately as above. Eg for a scatter graph allow one mark for • appropriate title for the data displayed • labelled axes (both must be labelled) • indication of appropriate scale on x and y axis • plotting of points on the graph • appropriate positioning of the best fit line The title may appear under the instruction to name a technique Max 2 if the technique drawn does not match the name of the technique. Max 2 if it is not clear that candidate's own fieldwork is being used.	***(4 marks)***

2 (b)(ii) **Ao3 – 5**	**Notes for answers** Justification is likely to take a variety of forms. Those who refer to the technique being 'quick and easy' to use should be held to Level 1 if nothing more substantive is offered by way of justification. Justification is likely to consider the advantages of the technique and / or the appropriateness of the technique in relation to the data being presented. Some may consider justification by rejecting unsuitable or inappropriate techniques for the data being displayed. Those who justify the use of an analysis technique can only score credit if the focus of the response is the presentational aspect of the technique. Such responses are likely to be held to Level 1. E.g. I chose a comparative bar graph as I wanted to compare the rainfall at the four different gauging stations between the three time periods I chose. This was the best technique available to me for presenting this data. Once I drew the scale correctly and added the timescales across the x axis, it was a straightforward technique to complete which clearly displayed the variations once I had added the key. Once complete, I was able to see patterns clearly and also point out any anomalies much more easily than if the data was displayed in tabular format. I did consider a comparative line graph but as my data is discrete as opposed to continuous, I felt the bar chart would be the best technique. No credit for description only. Credit valid justification even if name of technique does not match diagram in 2(b)(i) **Level 1 (1-3 marks)** Response may focus on description of how to use the technique with very little justification beyond perhaps 'quick and easy'. Basic justification which is lacking in detail. CMI annotations L1 Basic justification **Level 2 (4-5 marks)** Clear detailed justification of the technique chosen, appropriate to the data being displayed. Justifies in terms of advantages of the technique and may reject other techniques. CMI annotations L2- Clear, relevant justification	***(5 marks)***

2 (c)(i) **AO3 – 5**	**Notes for answers** Often textbook theory cannot be replicated easily in the field, either due to the limitations of the enquiry itself, or some factors in the complex nature of the local situation and / or variables beyond the scope of the enquiry. Some may, therefore, refer to such complexity. Candidates should be able to demonstrate that the enquiry undertaken has broadened their understanding of the topic area by referring to results in relation to theory and / or original aim. E.g. Our results showed some evidence of microclimate in the city though this was far from compelling. We did note a drop in temperature by 2 degrees when comparing inner Manchester with the rural urban fringe. However, the number of anomalies in the data showed that other factors must be at work in shaping the local climate. For instance, site 14 was 2km outside of the city but showed temperatures in excess of that found in the centre. **Level 1 (1-3 marks)** Results may be suspect with a sense that the enquiry has not been effectively understood or perhaps even carried out. Generic summary linked to theory in a superficial descriptive context. Simplistic statements. CMI annotations L1- tentative link to theme L1- limited reference to results **Level 2 (4-5 marks)** Results clearly based upon enquiry undertaken. Shows awareness of how findings link to theory. Perhaps show understanding of the complex nature of the local environment and how this impacts upon findings. CMI annotations L2- clear link to investigation theme L2- specific reference to results	***(5 marks)***

2 (c)(ii) **AO2 – 4** **AO3 – 2**	**Notes for answers** There are a variety of approaches candidates could take in this regard. Most will revisit the methodology and consider limitations and improvements to this area of the study. This is entirely legitimate and with appropriate detail could access full marks. Some may consider the basis of the aim, particularly in relation to the outcomes of the study. This may lead to the response questioning the basis of the study in the light of the findings. Such responses may also consider another line of enquiry arising out of the limitations of the study. This would constitute a sophisticated answer with appropriate detail. More limited responses will simply restate findings with a cursory look at improvements. **Level 1 (1-4 marks)** A basic examination of the potential for improving the study. May describe elements of the study and fail to engage with the actual improvements/extensions being suggested. Basic detail which may spend too long on the limitations at the expense of the improvements/extensions. CMI annotations L1 identifies limitations of investigation L1 basic description of improvement(s) **Level 2 (5-6 marks)** Description clearly focused upon improvements and/or extensions. Likely to consider limitations and improvements but offer the appropriate balance. May suggest further lines of enquiry arising out of the limitations. CMI annotations L2 clear description of improvements L2 description of specific limitations	***(6 marks)***