



Cambridge Assessment International Education
Cambridge Pre-U Certificate

GEOGRAPHY

9768/04

Paper 4 Research Topic

May/June 2019

MARK SCHEME

Maximum Mark: 50

Published

This mark scheme is published as an aid to teachers and candidates, to indicate the requirements of the examination. It shows the basis on which Examiners were instructed to award marks. It does not indicate the details of the discussions that took place at an Examiners' meeting before marking began, which would have considered the acceptability of alternative answers.

Mark schemes should be read in conjunction with the question paper and the Principal Examiner Report for Teachers.

Cambridge International will not enter into discussions about these mark schemes.

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This syllabus is regulated for use in England, Wales and Northern Ireland as a Cambridge International Level 3 Pre-U Certificate.

This document consists of **22** printed pages.

Generic Marking Principles

These general marking principles must be applied by all examiners when marking candidate answers. They should be applied alongside the specific content of the mark scheme or generic level descriptors for a question. Each question paper and mark scheme will also comply with these marking principles.

GENERIC MARKING PRINCIPLE 1:

Marks must be awarded in line with:

- the specific content of the mark scheme or the generic level descriptors for the question
- the specific skills defined in the mark scheme or in the generic level descriptors for the question
- the standard of response required by a candidate as exemplified by the standardisation scripts.

GENERIC MARKING PRINCIPLE 2:

Marks awarded are always **whole marks** (not half marks, or other fractions).

GENERIC MARKING PRINCIPLE 3:

Marks must be awarded **positively**:

- marks are awarded for correct/valid answers, as defined in the mark scheme. However, credit is given for valid answers which go beyond the scope of the syllabus and mark scheme, referring to your Team Leader as appropriate
- marks are awarded when candidates clearly demonstrate what they know and can do
- marks are not deducted for errors
- marks are not deducted for omissions
- answers should only be judged on the quality of spelling, punctuation and grammar when these features are specifically assessed by the question as indicated by the mark scheme. The meaning, however, should be unambiguous.

GENERIC MARKING PRINCIPLE 4:

Rules must be applied consistently e.g. in situations where candidates have not followed instructions or in the application of generic level descriptors.

GENERIC MARKING PRINCIPLE 5:

Marks should be awarded using the full range of marks defined in the mark scheme for the question (however; the use of the full mark range may be limited according to the quality of the candidate responses seen).

GENERIC MARKING PRINCIPLE 6:

Marks awarded are based solely on the requirements as defined in the mark scheme. Marks should not be awarded with grade thresholds or grade descriptors in mind.

| Question | Answer | Marks |
|----------|---|-------|
| 1(a) | <p>Study Fig. 1.1 which shows temperature throughout a 24 hour period for a location in an urban area and a location in the surrounding rural area.</p> <p>Giving evidence from Fig. 1.1, state the 2 hour period in which temperature decreased most rapidly at the rural location.</p> <p>Between 1800 and 2000, 8.8-8.6 °C to 3.3/3.4 °C , 5.1-5.4 °C</p> | 2 |
| 1(b) | <p>Contrast the change in temperature throughout the 24 hour period at the rural location with that at the urban location shown in Fig. 1.1.</p> <p>Accept any 3 valid contrasts, reserving 1 mark for data support using temperature or time of day. Valid points might include:</p> <ul style="list-style-type: none"> • Higher peak for rural (at <i>about</i> 1500) than urban (12.5 °C v 12 °C) • More rapid decline for rural from 1600 to 2000 • Lower min for rural (1.5 °C v 3.5 °C) • more rapid rise for rural from 0600 to 0800 <p><i>Mark each contrast up to 2 mks if data support accurate. Max 3 if no data support.</i></p> | 4 |

| Question | Answer | Marks |
|----------|---|-------|
| 1(c) | <p>Study Figs. 1.2 and 1.3, which show information about mean annual rainfall and temperature for selected weather stations in and around London, UK.</p> <p>To what extent is there a similarity between the patterns of mean annual rainfall and mean annual temperatures shown in Figs. 1.2 and 1.3?</p> <p>Accept any reasonable points which could be valid, but there must be clear reference to/support from Figs. 1.2 and 1.3. For full marks the issues of pattern and similarity must be addressed.</p> <p>Some points that could be made include:</p> <ul style="list-style-type: none"> • London Weather Centre highest for both temperature and rainfall • Values to the west are lower for both elements • Lowest rainfall is Dartford to the east, but lowest temp is Kenley to the south. • Kenley has lowest temperature but the second highest rainfall <p>L3 (5–6 marks) Clearly addresses the issue of patterns in Figs. 1.2 and 1.3 Makes an assessment of similarity of the two patterns Accurate data support from the resources</p> <p>L2 (3–4 marks) Some attempt at describing the patterns A superficial assessment of the similarity, or it may be missing Provides some data support at the top end of this level</p> <p>L1 (0–2 marks) Little attempt to address the question; simple description Data support inaccurate or lacking</p> | |

| Question | Answer | Marks |
|----------|---|-------|
| 1(d) | <p>Discuss the value of Figs. 1.1, 1.2 and 1.3 to those studying the impact of an urban area on microclimate.</p> <p>Advantages might include good visual impression, ease of reading data, comparisons easy to make and, for Figs. 1.2 and 1.3, good spatial representation of the data. The word ‘value’ allows candidates to address not only what is there but also what isn’t e.g. Fig. 1.1 has no date, no specific location, no indication of the prevailing synoptic situation.</p> <p>Additionally, there are other elements of urban microclimates not shown e.g. relative humidity, wind speed/direction, fog. Figs. 1.2 and 1.3 provide only mean annual figures only; there is no reference to seasonal variations. Accept any reasonable suggestions. An indicator of quality will be a justification for the other information suggested.</p> <p>The command word ‘discuss’ requires an assessment to be made and the best answers will address this.</p> <p>L3 (6–8 marks) A clear understanding of the strengths and limitations of the resources with evaluation to the fore. Knowledge of other resources/information which would be of use. Mature assessment.</p> <p>L2 (3–5 marks) Discussion of the pros and cons of the resources but assessment weakly developed. Very limited knowledge of other resources which may be of use. Provides support for some observations.</p> <p>L1 (0–2 marks) Little understanding of the question, perhaps simple description of the data. Support is inaccurate or lacking.</p> | 8 |

| Question | Answer | Marks |
|----------|---|-------|
| 2(a) | <p>Study Fig. 2.1, which shows relative humidity at 06:00 and 15:00 in a forested area and a cleared area next to a stream.</p> <p>Using Fig. 2.1, assess the impact that tree felling has on relative humidity next to the stream.</p> <p>The impact at 06:00 is small = it appears to cause a reduction of about 5 or 6%, from 100% to 95% at 0m, to a drop of 6% 70m away (from 99% to 93%). At 15:00 the impact is much more marked, there is a fall from 72% to 48% (24%) at the stream edge, 48% to 22% (26%) at 20m and then gradually narrowing to 70m from the stream 45% to 26% (19%).</p> <p>L3 (4–5 marks) Clear and detailed assessment. Fig. 2.1 is well used to support the points</p> <p>L2 (2–3 marks) A valid attempt to address the question. Evidence is used to support the points made. Lacks the detail or clarity needed for L3. Description only with little/no assessment</p> <p>L1 (0–1 marks) Little attempt to address the question; faulty use of data.</p> | 5 |
| 2(b) | <p>From your wider study of microclimates, assess the factors influencing the microclimates of hillslopes and valleys.</p> <p>Quality of argument will be the main discriminator rather than breadth of knowledge.</p> <p>An opportunity here for candidates to use the knowledge they've gained from their individual research. Any point of view is acceptable, but credit well those who are able to support their view with named and located exemplar support. The best candidates will address the evaluative aspect of the question – this will indicate L3. Candidates will need to consider some of the factors affecting microclimates in hills and valleys – altitude, latitude, time of year, aspect, slope steepness, land use, the prevailing synoptic situation, anabatic and katabatic winds are some of the factors that could be assessed.</p> <p>L3 (8–10 marks) A clear focus on the question with appropriate exemplar support. There is a sophisticated understanding of the role of a range of factors. The evaluation is well supported.</p> <p>L2 (5–7 marks) Expresses a view and provides some support. Sound knowledge and understanding, but overall lacking depth. May be limited in range, in explanation or in exemplification.</p> <p>L1 (0–4 marks) The approach is largely descriptive and superficial with little or no attempt to address the question. Little exemplar support.</p> | 10 |

| Question | Answer | Marks |
|----------|--|-------|
| 3 | <p>With reference to your own investigation of microclimates, to what extent did the scale of your investigation and the chosen location limit your findings?</p> <p>Begin by stating the question or hypothesis that you investigated.</p> <p>Answers should be based firmly on their own investigations, quoting examples drawn from this.</p> <p>Clearly, much depends on the investigation. This is an opportunity for candidates to examine the trade-offs they have made in scale and location in terms of the accuracy, reliability and representativeness of their findings.</p> <p>Candidates are likely to express their discussions in terms of:</p> <ul style="list-style-type: none"> • scale, for example, in terms of time, number of sites chosen and availability of resources (equipment, manpower). • location – is it the most representative or have they had to choose a less appropriate one because of accessibility and safety? How representative is it? <p>Both aspects of the question must be addressed – but balance is not required. The question asks candidates to make a judgement – this will be an indicator of quality.</p> <p>L4 (13–15 marks) The candidate displays a high order understanding. Addresses the evaluative aspect of the question in a mature and cogent fashion. Both scale and location are addressed. The points made are well supported with examples drawn from the candidate’s own investigation.</p> <p>L3 (10–12 marks) Good understanding of the question. The answer makes appropriate reference to the candidate’s own investigation. Focused on the question but the evaluation is limited or superficial. Treatment of either scale or location may be superficial.</p> <p>L2 (7–9 marks) Answer is focused on the candidate’s own investigation. Describes some of the issues, but in only a superficial fashion. Largely descriptive with little relevance to the question as set might just reach this level.</p> <p>L1 (0–6 marks) Discussion lacks detail. Perhaps descriptive, with only piecemeal comments. Little reference to candidate’s own investigation.</p> | 15 |

| Question | Answer | Marks |
|----------|---|-------|
| 4 | <p>With reference to your own investigation of microclimates, assess the strengths and limitations of the methods you used to collect the primary data.</p> <p>Begin by stating the question or hypothesis that you investigated.</p> <p>Answers should be based firmly on their own investigations, quoting examples drawn from this.</p> <p>Clearly, much depends on the investigation. Candidates should be aware of the pros and cons of the methods used to collect the primary data, although balance is not required. Discussion of the equipment used and sampling strategy are acceptable, as well as any improvements made as a result of pilot studies.</p> <p>Good answers will go beyond description of the strengths and limitations of each method and make an assessment, perhaps in terms of representativeness, accuracy and reliability. The key point is that the evaluation must be supported by the evidence presented.</p> <p>L4 (13–15 marks) The candidate displays a high order understanding of the strengths and limitations of the methods. There is good support drawn from the investigation. Evaluation to the fore.</p> <p>L3 (10–12 marks) Good understanding of the strengths and limitations. The answer makes appropriate reference to the candidate's own investigation. Focused on the question but the evaluation is limited or superficial.</p> <p>L2 (7–9 marks) Answer is focused on the candidate's own investigation. Describes some of the strengths and/or limitations, but in only a superficial fashion. Largely descriptive with little relevance to the question as set might just reach this level.</p> <p>L1 (0–6 marks) Discussion lacks detail. Perhaps weak description only, with occasional piecemeal comments about the findings. Little reference to candidate's own investigation.</p> | 15 |

| Question | Answer | Marks |
|----------|---|----------|
| 5(a) | <p>Study Fig. 5.1, which shows the Index of Multiple Deprivation (IMD) for census areas in North Somerset, England, for selected years from 2000 to 2015.</p> <p>Giving evidence from Fig. 5.1, which deprivation group showed the greatest increase in percentage of census areas from 2000 to 2015?</p> <ul style="list-style-type: none"> • The high deprivation group • From 6% to 13%/an increase of 7% | 2 |
| 5(b) | <p>Contrast the change in high and very high deprivation with that in low and very low deprivation from 2007 to 2015 shown in Fig. 5.1.</p> <p>Accept any 3 valid contrasts, reserving 1 mark for data support. Valid points might include:</p> <ul style="list-style-type: none"> • High and very high show an increase overall (from 23% to 25%), low and very low decrease overall (from 77% to 75%) • High and very high steady increase; low initial <i>decrease</i> (35% to 32%) and very low <i>increases</i> initially, then slight then slight decrease to 43% in 2015 <p><i>Mark each contrast up to 2 mks if data support accurate. Max 3 if no data support.</i></p> | 4 |

| Question | Answer | Marks |
|----------|--|-------|
| 5(c) | <p>Study Fig. 5.2 which shows income deprivation in North Somerset, England, in 2015 and Fig. 5.3, which shows crime deprivation in North Somerset in 2015.</p> <p>Using Figs. 5.2 and 5.3, assess the extent to which the distribution of income deprivation is similar to that of crime deprivation in North Somerset in 2015.</p> <p>Good answers will go beyond description and make a judgement about the similarity of the two patterns, supporting their argument with reference to Figs 5.2 and 5.3.</p> <p>Some points that could be made include:</p> <ul style="list-style-type: none"> • Similar patterns to both around Weston-super-Mare, Clevedon and Portishead. Nailsea also, but to a lesser extent in crime. • Differences in the east near Bristol, where crime has a much higher index and south west of Nailsea where income deprivation exceeds crime. <p>L3 (5–6 marks) Clear and detailed description well focussed on the evaluative aspect of the question The judgement will be well supported with clear reference to the Figs.</p> <p>L2 (3–4 marks) Some useful descriptive points with reference/support from the Figs. If there is a judgement it will be simplistic/superficial</p> <p>L1 (0–2 marks) Little attempt to address the question; simple description with no reference to the question Data support poorly chosen or inaccurate or lacking.</p> | 6 |

| Question | Answer | Marks |
|----------|---|-------|
| 5(d) | <p>In the North Somerset Corporate Plan, 2015 to 2019, one of the stated aims is to ‘Ensure that all our communities share in prosperity and employment growth’.</p> <p>Discuss the value of Figs. 5.1, 5.2 and 5.3 to those responsible for achieving this aim.</p> <p>Fig. 5.1 shows a good visual impression of the trend in IMD between 2000 and 2015. However, the information is dated (4 years ago) so gives no idea of recent trends. Also, the census areas are not defined (they are LSOAs) nor located.</p> <p>Figs 5.2 and 5.3 give good visual impressions of the spatial pattern of deprivation in North Somerset. However, the information is dated; being a choropleth map it’s hampered by the usual problems (step-like boundaries/hidden variation within large areas etc.). Also, only income and crime are shown – there are other domains of deprivation which need to be addressed (e.g. employment, access to housing)</p> <p>More detailed mapping, the views of residents, the success (or otherwise) of initiatives to reduce deprivation, the amount of funding available for initiatives would also be relevant to those responsible for achieving this aim. Accept any reasonable suggestions. An indicator of quality will be a justification for the other information suggested.</p> <p>The command word ‘discuss’ requires an assessment to be made and the best answers will address this.</p> <p>L3 (6–8 marks) A clear understanding of the strengths and limitations of the resources with evaluation to the fore. Knowledge of other resources/information which would be of use. Mature assessment.</p> <p>L2 (3–5 marks) Discussion of the pros and cons of the resources but assessment weakly developed. Very limited knowledge of other resources which may be of use. Provides support for some observations.</p> <p>L1 (0–2 marks) Little understanding of the question, perhaps simple description of the data. Support is inaccurate or lacking.</p> | 8 |

| Question | Answer | Marks |
|----------|--|-------|
| 6(a) | <p>Study Figs. 6.1 and 6.2. Fig. 6.1 shows the number of households by income group for rural and urban settlements in India in 2005. Fig. 6.2 shows a prediction of the same information for 2025.</p> <p>‘The predicted figures show reasons for both optimism and pessimism.’</p> <p>Using Figs. 6.1 and 6.2, assess the validity of this statement.</p> <p>Candidates can decide for themselves what may be deemed optimistic or pessimistic. Accept any sensible comments with support from the graphs, but both optimism and pessimism must be covered for full marks. Possible answers might include:</p> <ul style="list-style-type: none"> • Optimism – number of very low income households will decline by about half in rural areas and by more than half in urban areas. High and middle income (high) households will increase significantly in urban India • Pessimism – low income rural will increase significantly (from 50 million to 79 million) <p>L3 (4–5 marks) Clear and detailed discussion addressing both optimism and pessimism. Figs. 6.1 and 6.2 are well used to support the points made</p> <p>L2 (2–3 marks) A valid attempt to address the question. Evidence is used to support the points made. Lacks the detail or clarity needed for L3. Description without reference to optimism and pessimism will just reach this level</p> <p>L1 (0–1 marks) Little attempt to answer the question or describe the information shown on the Figs.</p> | 5 |

| Question | Answer | Marks |
|----------|---|-------|
| 6(b) | <p>From your wider study of deprivation, explain why some parts of urban areas experience more deprivation than others.</p> <p>Quality of argument will be the main discriminator rather than breadth of knowledge.</p> <p>An opportunity here for candidates to use the knowledge they've gained from their individual research. Good answers will consider some of the causes of deprivation and explain why they are more prevalent in some parts of a city than others (or in some cities rather than others). There will need to be appropriate exemplar support. The causes might be addressed in terms of the domains of deprivation (e.g. income, employment, education etc.). There may be reference to the cycle of deprivation.</p> <p>L3 (8–10 marks) A clear focus on the question with appropriate exemplar support. There is a sophisticated understanding, addressing the 'than others' part of the question as well as the more deprived areas. More than two causes will be addressed.</p> <p>L2 (5–7 marks) Expresses a view and provides some support. Sound knowledge and understanding, perhaps overall lacking depth. May be limited in explanation (e.g. 'than others' might be missing) or in exemplification.</p> <p>L1 (0–4 marks) The approach is largely descriptive and superficial with little or no attempt to address the question. Little exemplar support.</p> | 10 |

| Question | Answer | Marks |
|----------|--|-------|
| 7 | <p>With reference to your own investigation of deprivation, to what extent did the scale of your investigation and the chosen location limit your findings?</p> <p>Begin by stating the question or hypothesis that you investigated.</p> <p>Answers should be based firmly on their own investigations, quoting examples drawn from this.</p> <p>Clearly, much depends on the investigation. This is an opportunity for candidates to examine the trade-offs they have made in scale and location in terms of the accuracy, reliability and representativeness of their findings.</p> <p>Candidates are likely to express their discussions in terms of:</p> <ul style="list-style-type: none"> • scale, for example, in terms of time, number of sites chosen and availability of resources (equipment, manpower). • location – is it the most representative or have they had to choose a less appropriate one because of accessibility and safety? How representative is it? <p>Both aspects of the question must be addressed – but balance is not required. The question asks candidates to make a judgement – this will be an indicator of quality.</p> <p>L4 (13–15 marks) The candidate displays a high order understanding. Addresses the evaluative aspect of the question in a mature and cogent fashion. Both scale and location are addressed. The points made are well supported with examples drawn from the candidate’s own investigation.</p> <p>L3 (10–12 marks) Good understanding of the question. The answer makes appropriate reference to the candidate’s own investigation. Focused on the question but the evaluation is limited or superficial. Treatment of either scale or location may be superficial.</p> <p>L2 (7–9 marks) Answer is focused on the candidate’s own investigation. Describes some of the issues, but in only a superficial fashion. Largely descriptive with little relevance to the question as set might just reach this level.</p> <p>L1 (0–6 marks) Discussion lacks detail. Perhaps descriptive, with only piecemeal comments. Little reference to candidate’s own investigation.</p> | 15 |

| Question | Answer | Marks |
|----------|--|-------|
| 8 | <p>With reference to your own investigation of deprivation, assess the strengths and limitations of the methods you used to collect the primary data.</p> <p>Begin by stating the question or hypothesis that you investigated.</p> <p>Answers should be based firmly on their own investigations, quoting examples drawn from this.</p> <p>Clearly, much depends on the investigation. Candidates should be aware of the pros and cons of the methods used to collect the primary data, although balance is not required. Discussion of the equipment used and sampling strategy are acceptable, as well as any improvements made as a result of pilot studies.</p> <p>Good answers will go beyond description of the strengths and limitations of each method and make an assessment, perhaps in terms of representativeness, accuracy and reliability. The key point is that the evaluation must be supported by the evidence presented.</p> <p>L4 (13–15 marks) The candidate displays a high order understanding of the strengths and limitations of the methods. There is good support drawn from the investigation. Evaluation to the fore.</p> <p>L3 (10–12 marks) Good understanding of the strengths and limitations. The answer makes appropriate reference to the candidate's own investigation. Focused on the question but the evaluation is limited or superficial.</p> <p>L2 (7–9 marks) Answer is focused on the candidate's own investigation. Describes some of the strengths and limitations, but in only a superficial fashion. Largely descriptive with little relevance to the question as set might just reach this level.</p> <p>L1 (0–6 marks) Discussion lacks detail. Perhaps weak description only, with occasional piecemeal comments about the findings. Little reference to candidate's own investigation.</p> | 15 |

| Question | Answer | Marks |
|----------|---|-------|
| 9(a) | <p>Study Fig. 9.1, which shows the condition of coral reefs in Mexico, Belize and Honduras from 2008 to 2012.</p> <p>Giving evidence from Fig. 9.1, which reef condition showed the greatest change in percentage between 2008 and 2010?</p> <p>critical = 1mk; from 6% to 34% (or 28%) = 1mk</p> | 2 |
| 9(b) | <p>Contrast the change in percentage of reefs in poor condition with reefs in good condition from 2008 to 2012 shown in Fig. 9.1.</p> <p>Accept any 3 valid contrasts, reserving 1 mark for data support. Valid points might include:</p> <ul style="list-style-type: none"> • Poor – overall decline (52% to 39%); good overall remains the same (8%) • Poor – gradual decline throughout from 2008 to 2012 (52% – 48% – 39%); good shows initial decline (from 8% to 4%) then increase (4% to 8%) <p><i>Mark each contrast up to 2 mks if data support accurate. Max 3 if no data support.</i></p> | 4 |

| Question | Answer | Marks |
|----------|---|-------|
| 9(c) | <p>Study Fig. 9.2, which shows the percentage change in the Reef Health Index (RHI) for selected coral reefs in Mexico, Belize and Honduras from 2006 to 2012. The Reef Health Index is a composite index of the health of a reef environment.</p> <p>To what extent was coral reef management between 2006 and 2012 successful in improving the health of the reefs shown in Fig. 9.2?</p> <p>Accept any reasonable valid points, but there must be clear reference to/support from Fig. 9.2. An indicator of quality will be a focus on the evaluative aspect of the question.</p> <p>Some points that could be made include:</p> <ul style="list-style-type: none"> • some success in Mexico with only 3 reefs showing a negative change and 8 a positive change • Honduras – only 3 reefs showing a positive change, 1 no change, remaining reefs (0/10/11) all negative • Belize – a more mixed picture; 7/8 reefs show improvement, 8/9 show decline • Overall, more decline than improve • However, in Mexico in particular some very impressive improvements (50%, 70% and 100%), although there are 2 with significant decline (about 60%) <p>L3 (5–6 marks) Clear assessment with a focus on the evaluative part of the question Considers both the overall pattern and the variation between countries Accurate data support from the resources is well used to inform the judgement</p> <p>L2 (3–4 marks) Some attempt at making an assessment Provides data support at the top end of this level</p> <p>L1 (0–2 marks) Little attempt to address the question; simple description Data support inaccurate or lacking</p> | 6 |

| Question | Answer | Marks |
|----------|---|-------|
| 9(d) | <p>Assess the benefits and limitations of Figs. 9.1 and 9.2 to those responsible for managing coral reefs.</p> <p>Fig. 9.1 gives a good visual impression for the three countries. However, the information is dated, how many reefs are shown (figs are percentages) and what exactly constitutes ‘very good’, ‘good’ etc.?</p> <p>Fig. 9.2 – also a good visual impression, although some of the dots overlap. The most recent year is 2012 – have there been changes since then? It is only for ‘selected’ reefs. What exactly is the reef health index and how is it calculated.</p> <p>Other information which would be relevant might include a map to show the location/distribution, more recent data, information about all reefs in the 3 countries, some indication of what the main threats to reefs are in these countries, funding and planning considerations. Accept any reasonable suggestions. An indicator of quality will be a justification for the other information suggested.</p> <p>The best answers will address the pros and cons of both Figs. 9.1 and 9.2 before arriving at an assessment.</p> <p>L3 (6–8 marks) A clear assessment of the benefits and limitations of the resources. A structured format. Knowledge of other resources/information which would be of use along with justification.</p> <p>L2 (3–5 marks) Discussion of the benefits and limitations of the resources but limited knowledge of other resources which may be of use (or vice versa).</p> <p>L1 (0–2 marks) Little understanding of the question, perhaps simple description of the data. Support is inaccurate or lacking.</p> | 8 |

| Question | Answer | Marks |
|----------|--|-------|
| 10(a) | <p>Study Fig. 10.1, which shows honeybee mortality for selected European countries in the winter of 2012–2013.</p> <p>To what extent is there a pattern to honeybee mortality shown in Fig. 10.1?</p> <p>Overall, honeybee mortality does decline further South – compare Finland & Sweden with Italy and Greece, suggesting the existence of a north/south pattern. However, there are exceptions – Lithuania in the North having low mortality (<5%) and Portugal in the South having high mortality (10–20%). There may be reference to the idea that these appear to be national figures – hence no variation from north to south within Italy; this might explain why Corsica appears to be an anomaly.</p> <p>L3 (4–5 marks) A clear assessment, with focus on the evaluative nature of the question. There is good use of information from the maps. The anomalies are identified.</p> <p>L2 (2–3 marks) A valid attempt to address the question. A limited use of evidence to support the points made. Anomalies may be missing. A limited evaluation.</p> <p>L1 (0–1 marks) Little attempt to answer the question or describe the information shown on Fig. 10.1.</p> | 5 |

| Question | Answer | Marks |
|----------|--|-------|
| 10(b) | <p>‘Some natural environments require more conservation than others.’ From your wider study of conservation, how far do you agree with this statement?</p> <p>Quality of argument will be the main discriminator rather than breadth of knowledge.</p> <p>An opportunity here for candidates to use the knowledge they’ve gained from their individual research. A wide range of contexts is acceptable (but not required) e.g. TRFs, enhanced greenhouse effect, desertification. Any point of view on the spectrum is acceptable, but credit well those who are able to support their view with useful exemplar support. The best answers will display an understanding of a range of causal factors (e.g. physical, human, political) which make some environments more vulnerable than others. The best candidates will address the evaluative aspect of the question – this will indicate L3. Candidates must use the evidence/case studies presented to arrive at a robust and balanced judgement.</p> <p>L3 (8–10 marks) A clear focus on the question with appropriate exemplar support. There is a sophisticated understanding. The evaluation is well supported by exemplar material.</p> <p>L2 (5–7 marks) Expresses a view and provides some support. Sound knowledge and understanding, perhaps overall lacking depth. May be limited in range or in explanation or in exemplification.</p> <p>L1 (0–4 marks) The approach is largely descriptive and superficial with little or no attempt to address the question. Little exemplar support.</p> | 10 |

| Question | Answer | Marks |
|----------|---|-------|
| 11 | <p>With reference to your own investigation of conservation, to what extent did the scale of your investigation and the chosen location limit your findings?</p> <p>Begin by stating the question or hypothesis that you investigated.</p> <p>Answers should be based firmly on their own investigations, quoting examples drawn from this.</p> <p>Clearly, much depends on the investigation. This is an opportunity for candidates to examine the trade-offs they have made in scale and location in terms of the accuracy, reliability and representativeness of their findings.</p> <p>Candidates are likely to express their discussions in terms of:</p> <ul style="list-style-type: none"> • scale, for example, in terms of time, number of sites chosen and availability of resources (equipment, manpower). • location – is it the most representative or have they had to choose a less appropriate one because of accessibility and safety? How representative is it? <p>Both aspects of the question must be addressed – but balance is not required. The question asks candidates to make a judgement – this will be an indicator of quality.</p> <p>L4 (13–15 marks) The candidate displays a high order understanding. Addresses the evaluative aspect of the question in a mature and cogent fashion. Both scale and location are addressed. The points made are well supported with examples drawn from the candidate’s own investigation.</p> <p>L3 (10–12 marks) Good understanding of the question. The answer makes appropriate reference to the candidate’s own investigation. Focused on the question but the evaluation is limited or superficial. Treatment of either scale or location may be superficial.</p> <p>L2 (7–9 marks) Answer is focused on the candidate’s own investigation. Describes some of the issues, but in only a superficial fashion. Largely descriptive with little relevance to the question as set might just reach this level.</p> <p>L1 (0–6 marks) Discussion lacks detail. Perhaps descriptive, with only piecemeal comments. Little reference to candidate’s own investigation.</p> | 15 |

| Question | Answer | Marks |
|----------|---|-------|
| 12 | <p>With reference to your own investigation of conservation, assess the strengths and limitations of the methods you used to collect the primary data.</p> <p>Begin by stating the question or hypothesis that you investigated.</p> <p>Answers should be based firmly on their own investigations, quoting examples drawn from this.</p> <p>Clearly, much depends on the investigation. Candidates should be aware of the pros and cons of the methods used to collect the primary data, although balance is not required. Discussion of the equipment used and sampling strategy are acceptable, as well as any improvements made as a result of pilot studies.</p> <p>Good answers will go beyond description of the strengths and limitations of each method and make an assessment. The key point is that the evaluation must be supported by the evidence presented.</p> <p>L4 (13–15 marks) The candidate displays a high order understanding of the strengths and limitations of the methods. There is good support drawn from the investigation. Evaluation to the fore.</p> <p>L3 (10–12 marks) Good understanding of the strengths and limitations. The answer makes appropriate reference to the candidate's own investigation. Focused on the question but the evaluation is limited or superficial.</p> <p>L2 (7–9 marks) Answer is focused on the candidate's own investigation. Describes some of the strengths and limitations, but in only a superficial fashion. Largely descriptive with little relevance to the question as set might just reach this level.</p> <p>L1 (0–6 marks) Discussion lacks detail. Perhaps weak description only, with occasional piecemeal comments about the findings. Little reference to candidate's own investigation.</p> | 15 |