

CAMBRIDGE INTERNATIONAL EXAMINATIONS

Cambridge Pre-U Certificate

MARK SCHEME for the May/June 2015 series

9768 GEOGRAPHY

9768/04

Paper 04 (Research Topic), maximum raw mark 50

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Section A: Small Scale Ecosystems

1 Study Figs 1 and 2, which show information about a coastal sand dune ecosystem in the UK. Fig. 1 shows soil moisture content for selected soil water pH values in the sand dune ecosystem.

(a) Giving evidence from Fig. 1, state which pH value had the largest range of soil moisture. [2]

- 7.0 = 1 mark
- 5.9 – 15.2 or 9.3 = 1 mark

(b) Using Fig. 1, compare and contrast the soil moisture results for pH 7.5 with those for pH 8. [4]

Accept any valid comparisons/contrasts at 1 mark per valid point

- Reserve one mark for data support from Fig. 1.
- E.g. similar range (9%) and similar IQR (3.6); 7.5 higher median (8.6 v 5.8); 7.5 median central in IQR, 8.0 median at base of IQR; higher moisture overall in 7.5 etc.
- Must be at least one comparison and one contrast.

Fig. 2 shows soil moisture content and distance from the high water mark along a transect across the coastal sand dune ecosystem.

(c) To what extent does there appear to be a correlation between soil moisture and distance from the high water mark shown on Fig. 2? [6]

The main requirement is to make a judgement – any judgement is acceptable, as long as it is supported by detailed reference to the Fig. 2.

Many are likely to suggest that there is a correlation, especially strong from 80m and beyond. There are marked anomalies near 60m; from 40m or nearer to the HWM the correlation is present but weaker.

L3 (5–6 marks)

Sophisticated treatment addressing the correlation and its strength
Refers to different parts of the graph
Tackles variations and anomalies comfortably
Accurate data support

L2 (3–4 marks)

Some assessment of the correlation
Perhaps lacking anomalies
Provides some data to support points

L1 (0–2 marks)

Little attempt to address the question; simple description
Data support inaccurate or lacking

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- (d) **Assess the value of diagrams such as Figs 1 and 2 to those who study small scale ecosystems.** [8]

The question is about the value of the resources and this should be linked to how useful they would be to those studying small scale ecosystems. Reference to any small scale ecosystem(s) would be relevant.

Both diagrams show features of ecosystems and concentrate on patterns and relationships between variables. Although specific in this case to psammoseres, they could be used with other SSEs.

Both, however, ignore biotic components and deal only with abiotic components; additionally there is no locational or temporal information. Similarly, there is no information about the human impact. Candidates might legitimately refer to these limitations.

The question is not restricted to psammoseres, so accept any relevant reference to other SSEs

L3 (6–8 marks)

A clear understanding of the value of the resources

Knowledge of other resources/information which would be of use

Mature assessment

L2 (3–5 marks)

Discussion of the pros and cons of the resources

Limited knowledge of other resources which may be of use

Assessment limited

L1 (0–2 marks)

Little understanding of the question, perhaps simple description of the data in the resources.

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2) (a) Study Fig. 3 which shows information about Piperdam Country Park in Scotland.

Using evidence from Fig. 3, outline the challenges the managers might face in order to maintain the ecosystems in the Country Park. [5]

The focus here must be on the challenges faced by the management. The map indicates a number of human activities linked to leisure – golf, fishing, a play park, restaurant and luxury lodges. Accept any challenges linked to information on the map – e.g. water pollution, air pollution, erosion, visual pollution.

L3 (4–5 marks)

Clear and detailed identification of the challenges faced as result of the activities shown on the map. A sophisticated treatment.

L2 (2–3 marks)

A valid attempt to describe the activities shown on the map, but no real attempt to identify challenges.

L1 (0–1 marks)

Limited ability to interpret the map. Use of data is inaccurate or lacking.

(b) **‘The management of a small scale ecosystem needs to address issues both within and outside the ecosystem.’**

From your wider study of small scale ecosystems, consider the extent to which you agree with this statement. [10]

There is an opportunity here to use the knowledge gained from their individual research to explore the topic of the management of SSEs. Any approach is acceptable, but credit will be given to those who address the ‘consider’ element of the question and are able to support their view with useful exemplar material from both within and beyond the SSEs identified. An equal balance is not required. Beyond the SSE could include political, environmental, economic and planning issues.

L3 (8–10 marks)

A clear focus on the question with appropriate exemplar support. Addresses both within and outside the SSE – probably lacking balance. There is a sophisticated understanding. The viewpoint is well supported by exemplar material.

If only one ecosystem and done well max = 8 marks

L2 (5–7 marks)

Expresses a view and provides some support. Sound knowledge and understanding, lacking depth in places. May be limited in range or in explanation. May focus on one aspect of the question.

L1 (0–4 marks)

The approach is largely descriptive and superficial with little or no attempt to address the question. Little exemplar support.

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EITHER

- 3 With reference to your own investigation of small scale ecosystems, discuss what considerations you took into account when establishing appropriate strategies to collect the data required for your investigation. Begin by stating the question or hypothesis that you investigated. [15]**

Answers should be based firmly on candidates' own investigations, quoting examples drawn from this.

Clearly, much depends on the chosen investigation, so many different approaches would be acceptable. Discussion of reliability, accuracy, sampling, limitations of resources (e.g. equipment, time, personnel) and risk assessment would all be valid.

The command word 'discuss' implies there should be consideration of both sides of an issue; look for this when making a judgement about quality.

L4 (13–15 marks)

The candidate displays a high order understanding. Addresses both sides of an issue. The points made are well supported with examples drawn from the candidate's own investigation.

L3 (10–12 marks)

Good understanding of what should be taken into consideration. The answer makes appropriate reference to the candidate's own investigation. Well focused on the question. Perhaps lacking both sides of the issue.

L2 (7–9 marks)

More focused on the candidate's own investigation. Describes some of the considerations, but in only a superficial fashion. Largely descriptive with little relevance to the question as set might just reach this level.

L1 (0–6 marks)

Discussion lacks detail. Perhaps descriptive, with only piecemeal comments. Little reference to candidate's own investigation.

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OR

- 4 With reference to your own investigation of small scale ecosystems, how successful were you in explaining your findings in terms of the geographical ideas being studied? Begin by stating the question or hypothesis that you investigated. [15]

Answers should be based firmly on candidates' own investigations, quoting examples drawn from this.

Accept any balanced judgement, but it must be based on the evidence presented in the discussion by the candidate.

There are a number of possible approaches, depending on the nature of the investigation and the findings. One approach might be to treat the findings in three groups – those that are expected and can be explained, secondly those that were unexpected but could still be explained and, thirdly, those that were unexpected and could not be explained satisfactorily. This would facilitate an evaluative judgement to be made, a key element of a good answer.

L4 (13–15 marks)

The candidate displays a high order understanding, there will be a sophisticated evaluation based clearly on the points raised in the answer. Well supported by examples drawn from the candidate's own investigation.

L3 (10–12 marks)

Good understanding of the question with an attempt at evaluation. The answer makes appropriate reference to the candidate's own investigation. Well focused on the question.

L2 (7–9 marks)

More focused on the candidate's own investigation. Attempts to address the question, but in only a superficial fashion. Only limited support from the candidate's own investigation. There will be an imbalance, probably in favour of description. Largely descriptive with little relevance to the question as set might just reach this level.

L1 (0–6 marks)

Discussion lacks detail. Perhaps weak description only. Little reference to candidate's own investigation.

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Section B: Managing Rural Environments

- 5 Study Fig. 4 which shows population and service score for selected rural settlements in East Staffordshire, England, 2012.

The service score is a composite measure based on the type and number of services present in each settlement. The higher the score, the more services available.

- (a) Giving evidence from Fig. 4, state the range of service scores for the selected rural settlements. [2]

- From 15 to 65 is enough for 2 marks
50 is only 1 mark, there must be evidence

- (b) Discuss the validity of the line of best fit shown on Fig. 4. [4]

There does seem to be a positive correlation and that would be sufficient to justify a line of best fit, however the correlation does not appear to be very strong. There are anomalies and these should be referred to. There are only 3 settlements larger than 1600 shown, with a large gap between 1600 and 3000 – not sufficient to justify extending the line beyond 1600. Look for a balanced judgement (1 mark) with some support from the graph (3 marks).

Study Fig. 5 which shows the settlement hierarchy in East Staffordshire, England in 2012.

- (c) To what extent does there appear to be a North South divide in the categorisation of villages shown on Fig. 5? [6]

Look for a judgement along with supporting evidence from the map

e.g. Cat 1 villages – 1 in the N v 3 in the S

Cat 2 villages – 1 in the N v 5 in the S

Cat 3 villages – 10 in the N v 5 in the S

Similar number of villages 12 v 13 but larger in the S

A more sophisticated approach might ask where is N/S boundary (above assumes it to be along the A518)?

L3 (5–6 marks)

Clear and detailed treatment, well focused on the evaluative aspect of the question, with extensive and accurate data support from the graph and the table.

L2 (3–4 marks)

Clear attempt to address the question
Provides data support

L1 (0–2 marks)

Descriptive with little attempt to address the question
Data support inaccurate or lacking

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- (d) Assess the value of Figs 4 and 5 to those studying the characteristics and functions of rural settlements. [8]

There needs to be a combination of both strengths and weaknesses to enable a valid assessment to be made, although there is no requirement for balance between the two. The assessment could be anywhere on the spectrum, but the opinion must be well supported to gain maximum marks.

Expect reference to the following, though other valid points could well be made:

Fig. 4 – strengths include showing the relationship between population size and service score. However, there is no clear indication of what exactly constitutes the service score, nor is there any breakdown of the term population (e.g. age structure and other social and economic characteristics).

Fig. 5 shows spatial information in E Staffs, but there is no information as to what exactly constitutes the different categories. Additionally, neither diagram looks at changes through time.

Candidates might creditably discuss other information which would be of use.

L3 (6–8 marks)

Clear and detailed analysis of the value of the resources going beyond a list of the pros and cons to produce a well supported solid evaluation. Clear understanding of other resources which might be useful.

L2 (3–5 marks)

An understanding of some of the strengths and weaknesses, evaluation (if present) weakly supported. Some knowledge of other resources which may be of use.

L1 (0–2 marks)

Little understanding of the value; perhaps simple description.

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- 6 (a) Study Figs 6A and 6B which show the village of Belford, England in 1981 and in 2005.

Using Figs 6A and 6B, describe the ways in which the functions of Belford changed between 1981 and 2005. [5]

Industrial – expansion of the quarry encroaching on farmland (fields), silos adjacent to the new main road.

Some limited expansion of residential between 1981 and 2005.

Fire station

Tourism caravan/camping sites, golf club, outdoor activities centre, designated cycleway.

The answer needs to be framed in terms of functions rather than just descriptions of activities.

L3 (4–5 marks)

Clear and detailed description of the changes to the functions. Well focused on the question.

Data is convincingly used to support the opinion expressed.

L2 (2–3 marks)

A valid attempt to address the ways in which the functions have changed. Data is used to support the points made.

L1 (0–1 marks)

Limited ability to interpret the resource, may simply describe without addressing either functions or change. Use of data is inaccurate or lacking. No attempt to address the question.

- (b) ‘Successful management of rural environments is mostly about resolving conflicting demands’.

From your wider study of managing rural environments, consider the extent to which you agree with this statement. [10]

Much will depend upon the examples chosen. There should be some discussion of the views of different stakeholders in the rural environment debate, as well as what might be considered ‘successful’ in management terms. The important feature is that an assessment is made and supported with exemplar material from candidates’ wider research.

L3 (8–10 marks)

The question is to the fore with sophisticated exemplar support. There is a clear and well supported attempt to judge whether successful management is mostly about resolving conflict.

L2 (5–7 marks)

Attempts to address the question and there is some discussion of conflicts between different stakeholders. Exemplar support, though present, may be limited in value or scope.

L1 (0–4 marks)

The approach is largely descriptive and piecemeal, only a limited attempt to address the question.

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EITHER

- 7 With reference to your own investigation of managing rural environments, discuss what considerations you took into account when establishing appropriate strategies to collect the data required for your investigation. Begin by stating the question or hypothesis that you investigated. [15]**

Answers should be based firmly on candidates' own investigations, quoting examples drawn from this.

Clearly, much depends on the chosen investigation, so many different approaches would be acceptable. Discussion of reliability, accuracy, sampling, limitations of resources (e.g. equipment, time, personnel) and risk assessment would all be valid

The command word discuss implies there should be consideration of both sides of an issue; look for this when making a judgement about quality.

L4 (13–15 marks)

The candidate displays a high order understanding. Addresses both sides of an issue. The points made are well supported with examples drawn from the candidate's own investigation.

L3 (10–12 marks)

Good understanding of what should be taken into consideration. The answer makes appropriate reference to the candidate's own investigation. Well focused on the question. Perhaps lacking both sides of the issue.

L2 (7–9 marks)

More focused on the candidate's own investigation. Describes some of the considerations, but in only a superficial fashion. Largely descriptive with little relevance to the question as set might just reach this level.

L1 (0–6 marks)

Discussion lacks detail. Perhaps descriptive, with only piecemeal comments. Little reference to candidate's own investigation.

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OR

- 8 With reference to your own investigation of managing rural environments, how successful were you in explaining your findings in terms of the geographical ideas being studied? Begin by stating the question or hypothesis that you investigated. [15]**

Answers should be based firmly on candidates' own investigations, quoting examples drawn from this.

Accept any balanced judgement, but it must be based on the evidence presented in the discussion by the candidate.

There are a number of possible approaches, depending on the nature of the investigation and the findings. One approach might be to treat the findings in three groups – those that are expected and can be explained, secondly those that were unexpected but could still be explained and, thirdly, those that were unexpected and could not be explained satisfactorily. This would facilitate an evaluative judgement to be made, a key element of a good answer.

L4 (13–15 marks)

The candidate displays a high order understanding, there will be a sophisticated evaluation based clearly on the points raised in the answer. Well supported by examples drawn from the candidate's own investigation.

L3 (10–12 marks)

Good understanding of the question with an attempt at evaluation. The answer makes appropriate reference to the candidate's own investigation. Well focused on the question.

L2 (7–9 marks)

More focused on the candidate's own investigation. Attempts to address the question, but in only a superficial fashion. Only limited support from the candidate's own investigation. There will be an imbalance, probably in favour of description. Largely descriptive with little relevance to the question as set might just reach this level.

L1 (0–6 marks)

Discussion lacks detail. Perhaps weak description only. Little reference to candidate's own investigation.

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SECTION C Central Business Districts

9 Study Fig. 7, which shows pedestrian counts at 5 sites within the Central Business District (CBD) of Seattle, USA.

The pedestrian counts are taken on one weekday in the summer of each year shown.

(a) Giving evidence from Fig. 7, which site showed the largest increase in pedestrian count from 2010 to 2013? [2]

- Site 2 = 1 mark
- Accept from 2500–2600 to 4600–4800; or 2000–2300 = 1 mark

(b) Using Fig. 7, contrast the change in pedestrian counts at site 2 with site 5 between 2007 and 2013. [4]

Accept any valid contrasts.

e.g. site 5 always higher than site 2

site 2 fluctuates, site 5 shows gradual growth

site 2 lowest 2010, site 5 lowest 2007

Accept 3 valid contrasts up to a max of 3 marks, with the extra 1 mark reserved for data support

Do not credit similarities.

(c) Study Fig. 8 which shows land use on different floors in part of the CBD of a large city. 'A CBD will characteristically show both horizontal and vertical land use zoning.' To what extent does Fig. 8 support this statement? [6]

There is evidence of land use zoning in both the vertical and horizontal dimensions and candidates should be able to draw this out. Accept a judgement as long as it is well supported with evidence from Fig. 8.

Many are likely to see horizontal zoning of ground floor land-use – e.g. finance at the N end of High St, Department stores in the centre (PLVI) and specialist shops (shoes, jewellery) to the S.

Vertical zoning appears also – residential in the upper floors, offices in the first floor and retail on the ground floor.

The best answers may well point out the exceptions to the above.

L3 (5–6 marks)

Clear and detailed, well focused on the question. Evaluation is present along with extensive and accurate support from the resource

L2 (3–4 marks)

Clear attempt to describe both horizontal and vertical zoning. Provides some support from Fig.9. Judgement is superficial, lacks convincing support

L1 (0–2 marks)

Descriptive – fails to draw out zoning

Data support inaccurate or lacking

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- (d) Apart from that shown on Figs 7 and 8, what other information might be required by those responsible for ensuring the sustainability of central business districts? [8]

Figs 7 and 8 show information about pedestrian counts and land use. Candidates may approach this question from a range of angles, all equally valid.

e.g. views of pedestrians, purpose of their visit, threats from economic activities outside the CBD, planning controls, views of shop owners and their head offices, etc.

Additionally, candidates might question the validity of the data itself, perhaps in terms of the location of count sites, weekdays v weekends, night time counts, etc.

Accept any approach as long as it is linked to the idea of sustainability.

L3 (6–8 marks)

Clear and detailed discussion of other information which would be of value with a strong link to the concept of sustainability.

L2 (3–5 marks)

An attempt to discuss other information which may be of use. May well be descriptive with little reference to sustainability.

L1 (0–2 marks)

Little understanding of the question; perhaps simple description.

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10 (a) Study Fig. 9 which shows selected land uses in the CBD of Leicester, England.

Using Fig. 9, describe how the land uses shown in the core of Leicester's CBD differ from those shown in other parts of the CBD. [5]

Accept any valid differences, looking for support from the resource:

For example:

- Land use in the core is dominated by retail, but the map shows no retail outside the core.
- There is one car park shown in the core, many are shown outside the core.
- One administrative building in the core (Town Hall), three outside the core a theatre and a bus station are also present.
- Transport (1 bus stn v 2 and a railway stn); Recreation (1 theatre v 1 theatre plus parks).

L3 (4–5 marks)

Clear and detailed attempt at the question. The resource is well used to support the points made. The focus is on the difference in land uses.

L2 (2–3 marks)

A valid attempt to address the question. The points made are supported by reference to the resource.

L1 (0–1 marks)

Limited attempt to answer the question, may simply describe, no reference to differences.

(b) 'The edge of the CBD should be shown as a zone, not as a sharp line.'

From your wider study of CBDs, consider the extent to which you agree with this statement. [10]

An opportunity for candidates to illustrate their understanding of CBDs by focussing on how they might be delimited. Much depends on the examples chosen, and a range of responses would be valid, e.g. to a large extent, to some extent or to a limited extent.

A good response will address the evaluative nature of the question and be well supported with exemplar material.

L3 (8–10 marks)

The answer is well focused on the question with sophisticated exemplar support. There is clear consideration of the evaluative aspect.

L2 (5–7 marks)

Addresses the evaluative element of the question, but the evaluation is expressed without any depth of argument or only a superficial level of support.

L1 (0–4 marks)

The approach is largely descriptive and piecemeal.

No attempt to address the question.

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EITHER

- 11 With reference to your own investigation of Central Business Districts, discuss what considerations you took into account when establishing appropriate strategies to collect the data required for your investigation. Begin by stating the question or hypothesis that you investigated. [15]**

Answers should be based firmly on candidates' own investigations, quoting examples drawn from this.

Clearly, much depends on the chosen investigation, so many different approaches would be acceptable. Discussion of reliability, accuracy, sampling, limitations of resources (e.g. equipment, time, personnel) and risk assessment would all be valid.

The command word discuss implies there should be consideration of both sides of an issue; look for this when making a judgement about quality.

L4 (13–15 marks)

The candidate displays a high order understanding. Addresses both sides of an issue. The points made are well supported with examples drawn from the candidate's own investigation.

L3 (10–12 marks)

Good understanding of what should be taken into consideration. The answer makes appropriate reference to the candidate's own investigation. Well focused on the question. Perhaps lacking both sides of the issue.

L2 (7–9 marks)

More focused on the candidate's own investigation. Describes some of the considerations, but in only a superficial fashion. Largely descriptive with little relevance to the question as set might just reach this level.

L1 (0–6 marks)

Discussion lacks detail. Perhaps descriptive, with only piecemeal comments. Little reference to candidate's own investigation.

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OR

- 12 With reference to your own investigation of Central Business Districts, how successful were you in explaining your findings in terms of the geographical ideas being studied? Begin by stating the question or hypothesis that you investigated. [15]**

Answers should be based firmly on candidates' own investigations, quoting examples drawn from this.

Accept any balanced judgement, but it must be based on the evidence presented in the discussion by the candidate.

There are a number of possible approaches, depending on the nature of the investigation and the findings. One approach might be to treat the findings in three groups – those that are expected and can be explained, secondly those that were unexpected but could still be explained and, thirdly, those that were unexpected and could not be explained satisfactorily. This would facilitate an evaluative judgement to be made, a key element of a good answer.

L4 (13–15 marks)

The candidate displays a high order understanding, there will be a sophisticated evaluation based clearly on the points raised in the answer. Well supported by examples drawn from the candidate's own investigation.

L3 (10–12 marks)

Good understanding of the question with an attempt at evaluation. The answer makes appropriate reference to the candidate's own investigation. Well focused on the question.

L2 (7–9 marks)

More focused on the candidate's own investigation. Attempts to address the question, but in only a superficial fashion. Only limited support from the candidate's own investigation. There will be an imbalance, probably in favour of description. Largely descriptive with little relevance to the question as set might just reach this level.

L1 (0–6 marks)

Discussion lacks detail. Perhaps weak description only. Little reference to candidate's own investigation.