



GEOGRAPHY

Paper 4 Research Topic

9768/04

May/June 2013

1 hour 30 minutes

Additional Materials: Answer Booklet/Paper



READ THESE INSTRUCTIONS FIRST

If you have been given an Answer Booklet, follow the instructions on the front cover of the Booklet.

Write your Centre number, candidate number and name on all the work you hand in.

Write in dark blue or black pen.

You may use a soft pencil for any diagrams, graphs or rough working.

Do not use paper clips, highlighters, glue or correction fluid.

Choose Section A **or** Section B **or** Section C, according to your research topic.

Answer **three** questions, from the same section.

You are advised to spend thirty minutes on each Question.

For **Section A**, Microclimates, answer:

Question 1, Question 2 and **either** Question 3 **or** Question 4.

For **Section B**, Conservation, answer:

Question 5, Question 6 and **either** Question 7 **or** Question 8

For **Section C**, Central Business Districts, answer:

Question 9, Question 10 and **either** Question 11 **or** Question 12.

The Insert contains all the Figures referred to in the Question Paper.

This document consists of **7** printed pages, **1** blank page and **1** Insert.



Section A: Microclimates

Answer **three** questions:
Question 1, Question 2
and **either** Question 3 **or** Question 4

- 1** Study Fig. 1, which shows wind speed information for the London Borough of Ealing, UK, collected as part of a study into the proposed site of a wind turbine at **X** which is labelled on Fig. 1.

Fig. 2 shows the wards in the London Borough of Ealing.

- (a)** Use Fig. 1 to state, for the ward of North Greenford:

(i) the maximum wind speed;

(ii) the maximum height of the land. [2]

- (b)** Using Fig. 1, how far does there appear to be a link between height of the land and wind speed? [4]

- (c)** Fig. 3 is a 1:25 000 map extract showing the area around the proposed site of the wind turbine.

Using evidence from Figs 1 and 3, assess the suitability of the proposed site of the wind turbine. [6]

- (d)** Suggest what additional information might be required by those responsible for making the final decision about the wind turbine. [8]

- 2 (a) Study Fig. 4, which shows actual daily maximum temperatures and those predicted by a computer model at selected points for a new residential development in Singapore in 2009.

Using Fig. 4, how successful do you think the computer model has been in predicting temperatures for the new residential development? [5]

- (b) From your wider study of microclimates, why are microclimates more developed in some areas than in others? [10]

EITHER

- 3 With reference to your own investigation of microclimates, outline the problems you encountered during the collection of primary data and consider the extent to which you were successful in overcoming these problems.

Begin by stating the question or hypothesis that you investigated. [15]

OR

- 4 With reference to your own investigation of microclimates, consider the strengths and limitations of the techniques you used to present and analyse your findings.

Begin by stating the question or hypothesis that you investigated. [15]

Section B: Conservation

Answer **three** questions:
Question 5, Question 6
and **either** Question 7 **or** Question 8

- 5 Study Fig. 5, which shows information about soil conservation practices on farms in Canada in 2001 and 2006.
- (a) Using evidence from Fig. 5, state the change in the percentage of farms using wind breaks and shelterbelts between 2001 and 2006. [2]
- (b) Using Fig. 5, describe the changes in soil conservation practices between 2001 and 2006. [4]

Fig. 6 shows information about the main causes of soil degradation in susceptible drylands by region.

- (c) 'The relative contribution of causes of soil degradation is similar in Africa and Asia.'
How far does Fig. 6 support this statement? [6]
- (d) Suggest additional information, other than that shown on Figs 5 and 6, which might be required by those responsible for conserving soils. [8]

- 6 (a) Study Fig. 7, which shows information about forest areas in Southern Cameroon, West Africa in 1971 and 1999.

To what extent does Fig. 7 support the view that the protected areas policy for conserving forest areas in Southern Cameroon between 1971 and 1999 was a success? [5]

- (b) From your wider study of conservation, consider the extent to which it is possible to manage natural environments in a sustainable way. [10]

EITHER

- 7 With reference to your own investigation of conservation, outline the problems you encountered during the collection of primary data and consider the extent to which you were successful in overcoming these problems.

Begin by stating the question or hypothesis that you investigated. [15]

OR

- 8 With reference to your own investigation of conservation, consider the strengths and limitations of the techniques you used to present and analyse your findings.

Begin by stating the question or hypothesis that you investigated. [15]

Section C: Central Business Districts

Answer **three** questions:
Question 9, Question 10
and **either** Question 11 **or** Question 12

9 Study Fig. 8, which shows the Central Business District (CBD) of Newcastle upon Tyne, UK.

(a) Identify **two** features on Fig. 8 which show this area is the CBD. [2]

(b) Using Fig. 8, what evidence is there of functional zoning in Newcastle's CBD? [4]

Fig. 9 shows the location of banks and building societies in the CBD of Newcastle upon Tyne in 1967 and 2004.

(c) Using Fig. 9, describe the changes in the location and distribution of banks and building societies in Newcastle upon Tyne between 1967 and 2004. [6]

(d) A major financial company plans to open a new branch in the CBD of Newcastle upon Tyne.

Consider the advantages and limitations of Figs 8 and 9 to the company when choosing a location for the new branch. [8]

- 10 (a)** Figs 10A and 10B show two different methods of presenting the same data from a study of pedestrian flows in the centre of Ambleside, Cumbria, UK

Which of the two methods do you think is more appropriate for showing the results? Briefly explain the reasons for your choice. [5]

- (b)** From your wider study of Central Business Districts, consider the extent to which recent changes in CBDs have been the result of economic factors. [10]

EITHER

- 11** With reference to your own investigation of Central Business Districts, outline the problems you encountered during the collection of primary data and consider the extent to which you were successful in overcoming these problems.

Begin by stating the question or hypothesis that you investigated. [15]

OR

- 12** With reference to your own investigation of Central Business Districts, consider the strengths and limitations of the techniques you used to present and analyse your findings.

Begin by stating the question or hypothesis that you investigated. [15]

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Copyright Acknowledgements:

Question 1 Fig. 1	© <i>Ealing Urban Wind Study</i> ; Centre for Sustainable Energy; www.cse.org.uk ; 21 July 2003.
Question 1 Fig. 2	© <i>State of Ealing, 2009</i> ; Corporate Research and Consultation Team, Ealing Council; http://www.ealing.gov.uk/download/downloads/id/1291/population_analysis ; 21 March 2012.
Question 1 Fig. 3	Extract of Northolt reproduced by permission of Ordnance Survey on behalf of HMSO. © Crown Copyright 2012. All rights reserved. Ordnance Survey Licence number 100043707.
Question 2 Fig. 4	© B Balazs et al; <i>Intensive Observation Period for the Study of Microclimate in a High-Rise Residential Development in Singapore</i> ; http://censam.mit.edu/news/posters/2010/norford/5.pdf ; 21 March 2012.
Question 5 Fig. 5	© <i>Agriculture and Agri-Food Canada</i> ; http://www4.agr.gc.ca/AAFC-AAC/display-afficher.do?id=1205766026093&lang=eng ; 9 August 2011.
Question 5 Fig. 6	© <i>Ministry of the Environment, Government of Japan</i> ; World Atlas of Desertification 1997; http://www.env.go.jp/en/earth/desert/leaflet_gd/index_1_3.html ; 21 March 2012.
Question 6 Fig. 7	© <i>Vital Forest Graphics</i> ; UNEP/GRID-Arendal; 2009.
Question 9 Fig. 8	Extract of Newcastle Upon Tyne reproduced by permission of Ordnance Survey on behalf of HMSO. © Crown Copyright 2010. All rights reserved. Ordnance Survey Licence number 100043707.
Question 9 Fig. 9	© John Charleton; <i>GeoActive Online Issue 315, GCSE Coursework: Investigating the CBD</i> ; Nelson Thornes; 2004.
Question 10 Figs 10A & 10B	© John Charleton; <i>GeoActive Online Issue 315, GCSE Coursework: Investigating the CBD</i> ; Nelson Thornes; 2004.

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