



**GEOGRAPHY (PRINCIPAL)**

**9768/04**

Paper 4 Research Topic

**May/June 2019**

**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 an HB pencil for any diagrams or graphs.

Do not use paper clips, 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**, Deprivation, answer:

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

For **Section C**, Conservation, answer:

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

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

At the end of the examination, fasten all your work securely together.

The number of marks is given in brackets [ ] at the end of each question or part question.

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 **4** printed pages and **1** Insert.

### Section A: Microclimates

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

- 1 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.
- (a) Giving evidence from Fig. 1.1, state the 2 hour period in which temperature decreased most rapidly at the rural location. [2]
- (b) 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. [4]

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.

- (c) To what extent is there a similarity between the patterns of mean annual rainfall and mean annual temperature shown in Figs. 1.2 and 1.3? [6]
- (d) Discuss the value of Figs. 1.1, 1.2 and 1.3 to those studying the impact of an urban area on microclimate. [8]

[Total: 20]

- 2 (a) 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.
- Using Fig. 2.1, assess the impact that tree felling has had on relative humidity next to the stream. [5]
- (b) From your wider study of microclimates, assess the factors influencing the microclimates of hillslopes and valleys. [10]

[Total: 15]

#### EITHER

- 3 With reference to your own investigation of microclimates, to what extent did the scale of your investigation and the chosen location limit your findings?

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

#### OR

- 4 With reference to your own investigation of microclimates, assess the strengths and limitations of the methods you used to collect the primary data.

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

### Section B: Deprivation

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

- 5 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.
- (a) Giving evidence from Fig. 5.1, which deprivation group showed the greatest increase in percentage of census areas from 2000 to 2015? [2]
- (b) 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. [4]

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.

- (c) 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. [6]
- (d) 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'.

Discuss the value of Figs. 5.1, 5.2 and 5.3 to those responsible for achieving this aim. [8]

[Total: 20]

- 6 (a) 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.

'The predicted figures show reasons for both optimism and pessimism.'

Using Figs. 6.1 and 6.2, assess the validity of this statement. [5]

- (b) From your wider study of deprivation, explain why some parts of urban areas experience more deprivation than others. [10]

[Total: 15]

### EITHER

- 7 With reference to your own investigation of deprivation, to what extent did the scale of your investigation and the chosen location limit your findings?

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

### OR

- 8 With reference to your own investigation of deprivation, assess the strengths and limitations of the methods you used to collect the primary data.

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

### Section C: Conservation

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

- 9** Study Fig. 9.1, which shows the condition of coral reefs in Mexico, Belize and Honduras from 2008 to 2012.
- (a) Giving evidence from Fig. 9.1, which reef condition showed the greatest change in percentage between 2008 and 2010? [2]
- (b) Contrast the change in percentage of reefs in poor condition with reefs in good condition from 2008 to 2012 shown in Fig. 9.1. [4]

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.

- (c) To what extent was coral reef management between 2006 and 2012 successful in improving the health of the reefs shown in Fig. 9.2? [6]
- (d) Assess the benefits and limitations of Figs. 9.1 and 9.2 to those responsible for managing coral reefs. [8]

[Total: 20]

- 10** (a) Study Fig. 10.1, which shows honeybee mortality for selected European countries in the winter of 2012–2013.
- To what extent is there a pattern to honeybee mortality shown in Fig. 10.1? [5]
- (b) ‘Some natural environments require more conservation than others.’
- From your wider study of conservation, how far do you agree with this statement? [10]

[Total: 15]

#### EITHER

- 11** With reference to your own investigation of conservation, to what extent did the scale of your investigation and the chosen location limit your findings?
- Begin by stating the question or hypothesis that you investigated. [15]

#### OR

- 12** With reference to your own investigation of conservation, assess the strengths and limitations of the methods you used to collect the primary data.
- Begin by stating the question or hypothesis that you investigated. [15]

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