

Section A: Microclimates

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

- 1 Fig. 1 is a section across a valley in Northern England, showing the location of 6 weather stations. Fig. 2 shows the number of days of fog during the month of November between 1995 and 2003 recorded at the weather stations shown in Fig. 1. Fig. 3 shows average daily maximum and minimum temperatures at the weather stations during November for the same time period.
- (a) Using Fig. 2, state the range of days of fog at weather station A. [2]
- (b) 'Fog is more common on valley floors than on the sides of valleys.' To what extent does Fig. 2 support this assertion? [4]
- (c) Using Fig. 3 compare the trend of average daily maximum temperatures at the weather stations to the trend of average daily minimum temperatures. [6]
- (d) Evaluate the usefulness of Figs 1, 2 and 3 to those who study the microclimates of valleys. [8]

- 2 Study Fig. 4 which shows temperatures for the town of Chapel Hill, North Carolina, USA on the night of 15th September 1969.
- (a) Using Fig. 4, to what extent does Chapel Hill appear to display a heat island effect? [5]
- (b) From your wider study of microclimates, under what conditions, and for what reasons, are urban heat islands most likely to form? [10]

EITHER

- 3 With reference to your own investigation of microclimates, discuss the strengths and limitations of the use of primary sources and secondary sources of information.
- Begin by stating the question or hypothesis that you investigated. [15]

OR

- 4 In your own investigation of microclimates, to what extent could the variations you found be explained?
- Begin by stating the question or hypothesis that you investigated. [15]