



MARKSCHEME

May 1999

GEOGRAPHY

Higher and Standard Level

Paper 1

GEOGRAPHY HIGHER / STANDARD LEVEL PAPER 1

Notes on individual questions

Question 1:

This question covers aspects of the themes of both Population and Economic Development. It is designed to test candidates' understanding of the causes of population growth in urban areas of economically more developed and less developed regions of the world, and their ability to transform data from tabular to graphical form.

- (a) Candidates are required to draw a bar graph (simple or compound/structured) that correctly shows the numerical value of the data contained in the table. For this they should receive one mark *[1 mark]*. To gain a second mark *[1 mark]* candidates must have titled the graph **and** labelled the axes as appropriate. Examiners should withhold the mark when either title or labels are missing or when untidy work impairs the effectiveness of the graph.

[2 marks]

- (b) (i) One mark each *[2 marks]* should be awarded to candidates who indicate that in the nineteenth century rapid urbanisation occurred in what are now the more developed regions of the world, and that in the mid twentieth century it has been occurring in the less developed regions. Examiners should recognise and accept answers of a more specific nature than simply less or more developed regions. For example, candidates might cite the continent of Asia or the countries of India and China as instances of the former (or industrialisation in the mid twentieth century) and the continent of Europe or the country of England *etc.* as illustrative of industrialisation in the nineteenth century.

[2 marks]

- (ii) For *[1 mark]* candidates should indicate that in the nineteenth century urbanisation was a consequence of economic development. Also acceptable would be an answer mentioning that industrialisation had created a great demand for labour in mining and manufacturing centres.

A second mark *[1 mark]* should be awarded candidates who indicate that in the mid twentieth century urbanisation has been a consequence of population movement and growth. Also acceptable would be an indication that migration from rural areas and a high rate of natural increase in population have resulted in rapid urbanisation.

[2 marks]

Question 2:

This question deals again with the theme of Economic Development but this time with links to the environment: it requires candidates to absorb the information contained in two tables, draw inferences from them, and demonstrate an understanding of environmental hazard.

(a) While the phrasing may vary, candidates are expected to indicate at least that desertification involves the occurrence of desert-like conditions in areas not previously considered to be desert *[1 mark]*.

[1 mark]

(b) Overcultivation, overstocking (or overgrazing) and intensive collection of fuelwood are indicators of population pressure on existing resources. Candidates may note that the collection of fuelwood is a major cause of environmental degradation in less developed regions of the world because of their dependence on fire for cooking purposes. For *[1 mark]* candidates should mention at least that the three indicators point to a depletion of fertility and soil erosion, affecting the texture of the soil and making it more vulnerable to erosion. A maximum of *[3 marks]* in total may be awarded for answers that also explore links between population data and the need for food production.

[3 marks]

(c) Candidates are expected to show a broad understanding of environmental and human consequences of desertification: they are not expected to provide an exhaustive list of instances or to describe a consequence with the precision employed by soil scientists. Two valid examples of environmental consequences should receive a total of *[1 mark]*, and the same in the case of human consequences, making a combined total of *[2 marks]* for part (c) of the question.

Among the environmental consequences might be any of the following: expansion of sand deposits, reduced productivity of rangelands and croplands; the sedimentation of rivers and the siltation of reservoirs by wind and water erosion; the siltation of wetlands and marine systems by dryland erosion; changes in composition of perennial vegetation and in drainage patterns; the erosion of the genetic base of dryland staple foods such as barley, millet, and sorghum; the loss of animal and plant species and severe population reduction, creating the danger of further extinction; and increase in global warming.

Human consequences of an economic type will include a decreased availability of firewood and plants for food and medicinal purposes; reduced revenues from agriculture and grazing; and increased dependence on foreign food production and aid. Consequences of a social and cultural type could include a reduced availability of natural materials that have cultural uses or importance; the loss of traditional areas that have to be abandoned; population movement due to food insecurity and famine; and social tensions in areas receiving migrants from desertified lands. **Note** It is sufficient that candidates cite two plausible examples of human consequences; it is not necessary that one of them be of an economic type and the other social or cultural.

[2 marks]

Question 3:

As its phrasing makes clear, the emphasis in this question is on human *response* to environmental hazards, rather than on the nature and progress of hazards themselves. Candidates are also expected to demonstrate an awareness of the four questions geographers pose: what, where, why/how, and what are the alternatives.

- (a) Candidates who correctly locate a hazard and date its occurrence should receive *[1 mark]* in recognition of having answered the first two questions - what, where, (and when). Dating by decade, rather than a specific year, would be acceptable for the mark, provided that the hazard has been correctly identified with a place.

[1 mark]

Thereafter, examiners should expect a wide variety of responses and exercise their discretion in determining:

- (b) the *[3 marks]* that may be awarded for describing the nature of the response to the hazard; and
- (c) the *[2 marks]* for alternative ways the inhabitants might have chosen to respond. In order to merit marks, the alternative ways must be realistic - especially in the local context.

[3 marks]

[2 marks]

Question 4:

This question places the topic of Agriculture and Food within the context of Development. It requires candidates to collate the information obtained from a diagram and a map; specifically, to associate food consumption and sources of protein with a broad division of the world into more developed and less developed regions by means of the north-south Brandt line.

(a) [1 mark] should be awarded candidates who note that animal protein as a percentage of diet is highest in countries north of the line, or conversely lowest for those south of the line. A second mark [1 mark] is available, at the examiner's discretion, to recognise a variety of more detailed answers, such as the existence of medium-range percentages (55-25%) on both sides of the line and in specific countries.

[2 marks]

(b) The most obvious pattern on the map is the association of non-animal sources of protein (or low percentage of animal protein) with economically less developed regions of the world. [1 mark] should be awarded for recognition of this association. Candidates might comment on the link between the consumption of food and the higher percentage of protein from animal sources in more developed regions, although this link is not as clear as the link in the former. Thus candidates might state that Russia, though a more developed country, obtains a lower percentage of protein from animal sources than does western Europe; and that Mexico, Central America, and South America, though less developed, obtain a higher percentage of theirs from animal sources than does Asia. Argentina is actually comparable with countries of the more developed world in the percentage of protein it obtains from animal sources. Examiners may award up to two additional marks [2 marks] for answers that note such variations either in whole or in part.

Some candidates may attempt to highlight differences in distribution by techniques such as citing ratios of population to food supplies. With forty percent of the world's population and fourteen percent of its food supply, for example, Asia would have a ratio of 1:0.35; for the United States and Canada the figure would be 1:2.5. Examiners should be prepared to recognise this or other valid attempts on the part of candidates by the award of a fourth mark [1 mark].

[4 marks]

Question 5:

This question provides candidates with an opportunity for a completion activity and structured response. Its content ranges across the subject guide from 1.2 (Population change - migration) to 2.2 (Differential levels of development) 2.3 (Problems and strategies of development), 5.3 (Urban morphology) and 5.4 (Urban issues). The question focuses on differences - in the way **residential** areas are distributed in cities that are located in economically more developed regions and those in less developed regions.

- (a) It is not necessary that candidates draw the two residential areas in patterns exactly the same as those usually found on the urban models for these two regions. It is essential however that they show the lower income residential areas as inner urban areas clustered around the CBD of cities in more developed regions - and ringing the outskirts of cities in less developed regions where they constitute shanty settlements (in some cases with basic services added by government in order to improve them). Candidates may indicate inner-city slums in some cities of the less developed regions but they should still indicate shanty settlements on the periphery.

The CBD is simply required on the models as a reference point in showing this basic distinction between the two types of urban settlement pattern. By the same argument, the residential areas of middle and high income have been grouped together. Candidates are expected to indicate in both cases that migration is to the low income residential areas.

Candidates who show *correctly* all three - the CBD, low income residential area, and the localities receiving immigrants - are to receive [1 mark] for each regional model, a total of [2 marks].

[2 marks]

- (b) Candidates who correctly name a city representative of either one of the two types of region should receive one mark [1 mark].

[1 mark]

- (c) Examiners have considerable discretion in awarding marks for question 5(c). Description of the issues will range widely. For rapidly growing cities in less developed regions, issues such as housing, water supply and waste management, health and education services, pollution and health, and transportation will be important. In cities in more developed regions, social inequalities, and environmental problems may be important - especially pollution in its varied forms. It is not sufficient for a candidate simply to list an issue in order to receive full marks for this question. Stronger candidates will demonstrate an understanding of **how** and **why** the issue was affecting the city - especially in a spatial way.

[3 marks]
