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INTERNACIONAL

MARKSCHEME

November 2002

GEOGRAPHY

Higher Level and Standard Level

Paper 1

9 pages

Question 1

This question is based on population change and allows the candidate to demonstrate their skills in plotting and interpreting graphs.

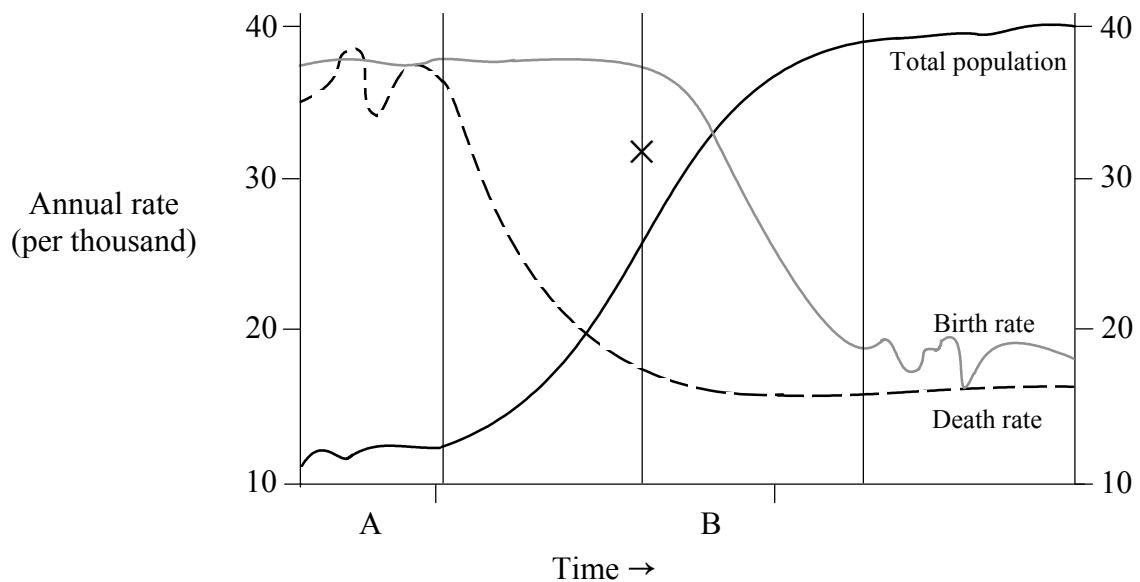**(a) Determine the rate of natural increase for countries A and B.**

Country A: 0.1 % *(accept 0 to 0.2 %)*

Country B: 1 % *(accept 0.9 to 1.1 %)*   *[2 marks]*

Both vertical axes display calibrations (2 cm = 10) to permit accurate measurement. *[1 mark]* may therefore be awarded for correct answers.

The diagram below shows the inserted responses required by questions 1(b) and 1(c).

Failure to give the values as percentages (or failure to give any unit of measurement at all) should mean a maximum of only *[1 mark]* could be awarded. One correct value (even if in the wrong unit of measurement) should be given *[1 mark]*.

(b) Draw vertical lines on the diagram to show the point of division between stages 1, 2, 3 and 4.   *[1 mark]*

The correct placement of the three vertical lines merits *[1 mark]*. See diagram above.

(c) Mark (×) on the diagram at the point of *highest rate of natural increase.*   *[1 mark]*

[1 mark] may be awarded for the correct placement of the point (×) of highest rate of natural increase. See diagram above.

(d) Explain why there is a fluctuating *deathrate* in stage 1 and a fluctuating *birthrate* in stage 4.   *[4 marks]*

Candidates would be expected to comment in general on the periodic incidence of war, disease, natural hazards and famine responsible for the fluctuating death rates in stage 1 *[1 mark]*, and on the social and economic factors responsible for fluctuating birth rates in stage 4 *[1 mark]*, e.g. the "baby booms" and the periodic programmes by governments to alter fertility rates. The remaining *[2 marks]* should be allocated for any development of these basic statements.

Question 2

Although the data are presented by means of a population pyramid, this question addresses the theme of economic growth and development. It tests the candidate's ability to read graphs and to draw reasonable inferences from the data displayed.

(a) **Does the diagram refer to a more economically developed country (MEDC) *or* less economically developed country (LEDC). Give your reason.**   *[2 marks]*

[1 mark] should be awarded for describing the country as an LEDC and *[1 mark]* for an acceptable reason.

(b) **What is the youngest age group in which there are fewer females than males as a result of the AIDS epidemic?**   *[1 mark]*

The earliest age group containing fewer females than males as a result of the AIDS epidemic is the 20-year cohort *[1 mark]*.

(c) **Name *three* effects of the AIDS epidemic on the population structure *(other than changes in sex ratios)*.**   *[3 marks]*

Three of the following effects should be named to achieve the *[3 marks]* available.
- changes in birth rate
- death rate
- population size
- dependency ratios

(d) **Describe *two* problems for the country arising from the dependency ratio that is projected for the year 2020.**   *[2 marks]*

In ordinary circumstances, the country's dependency ratio would have been typical of that in LEDCs – a rapidly growing population of young people and a shortened life expectancy for many.

The most obvious problem caused by the great imbalance in the dependency ratio (arising from the severe shortfall in the economically productive age groups) would be the inability of the workforce to generate sufficient income to meet their own demands and those of their dependants *[1 mark]*. Among other problems might be the pressing of younger and younger children into employment, the continued demands placed on the elderly to remain productive, the general collapse of the economy and the growing dependence on foreign aid, *etc. [1 mark]*.

This question requires careful thought by the candidate and examiners should be flexible in awarding marks for a wide range of plausible answers – and especially ones which demonstrate reasoning on the part of the candidate.

Question 3

This question ranges across the themes of human response to natural hazards, and economic growth and development – with specific reference to LEDCs. It requires the candidate to go beyond the usual perspective of "what happened – what did the people do" to focus on social and economic aspects as well as management issues. Key to marking answers to 3(b) will be the extent to which the candidate has responded to data in the table, rather than simply by offering general discourse.

(a) **Explain the reasons for the different costs in damage done to agriculture and private property by**

    (i) **earthquakes**

    (ii) **volcanoes.**

[2 marks]

Please mark the two parts (i) and (ii) together. Candidates would be expected to comment on the spatial and structural impacts of these two hazards - fields remain relatively unaffected by earthquakes because there are very few structures that can be disrupted or destroyed, unlike private property. Volcanoes, on the other hand, affect large but localised areas through primary eruptions (lava and pyroclastic flows, tephra), and secondary damage from dust, mudslides, etc., while private property remains relatively unaffected unless it is in the direct path of a lava flow or a consequent mudslide. The *[2 marks]* should be allocated for any response that recognises these differences.

(b) **Select *either* an earthquake *or* a volcanic hazard that has occurred in an LEDC. Name the LEDC and describe how housing, society and the economy are vulnerable to this hazard.** *[3 marks]*

This question is **not** focused on what happened but on **how** or **why** a country might be vulnerable in the categories mentioned. As the question is designed to elicit a broad understanding of vulnerability, do not award more than *[1 mark]* for any of the **three** categories, but note that the question requires a named LEDC and specific hazard. If no example is chosen in 3(b), or if the chosen example is inappropriate, up to *[2 marks]* can still be allocated for an acceptable response.

(c) **Select *one* of the following examples of *hazard management strategy* and explain what could be done to make it effective in the country you have chosen in 3(b).**

- *Loss reduction techniques – acting to reduce loss before an event occurs*
- *Disaster management – during and after an event occurs*
- *Diversifying the economy – to reduce future loss*   *[3 marks]*

This question requires candidates to select and address only **one** type of hazard management strategy. Those who address more than one strategy or have misread the question should not receive more than *[1 mark]*.

A wide range of answers should be expected. In all cases, however, candidates must deal with measures to reduce loss in advance of the event, **or** ways in which the onset and consequences of the event are managed, **or** ways in which the economy could be diversified to reduce future loss. Whatever the example chosen, it must be relevant to the hazard and LEDC chosen in 3(b).

Question 4

This question on agriculture and world food production is designed to test skills in graphing, understanding, and the drawing of plausible conclusions.

(a)   **Plot the data in the table on the axes below.**   *[3 marks]*

Award *[1 mark]* for accuracy of plot, (which assumes an appropriate scale on the Y-axis), *[1 mark]* for appropriate labelling of the X and Y axes, and *[1 mark]* for the appropriate and effective identification of the regions on the graph itself. Note that candidates may fulfil these criteria in one of a number of formats; *e.g.* single column simple bar graphs, scatter graphs *etc.*

(b)   **What does the value Y=100 indicate?**   *[1 mark]*

[1 mark] should be awarded for answers that indicate that the statement Y = 100 means self sufficiency, neither surplus nor deficit, or that supply is adequate to demand. The precise wording is less important than the understanding conveyed.

(c)   **Describe the distribution in the world of regions with a food surplus and those with a deficit in food sufficiency. Note any case or cases that do not fit the broad patterns of distributions.**   *[2 marks]*

Candidates are simply required to describe distribution and note any anomalies. The most obvious feature is the distribution of surplus and deficit along the North-South line and candidates who make this point should receive *[1 mark]*. *[1 mark]* should be reserved for answers that note the exception of CIS or the southern margins of Europe among countries north of the Brandt line.

(d)   **Briefly describe *two* factors that could have accounted for the levels of production in Sub-Saharan Africa?**   *[2 marks]*

Factors accounting for the distribution in Sub-Saharan Africa would include population pressure on land resources, desertification, conflict. Award up to *[2 marks]* for plausible answers.

Question 5

This question is set on the theme of urban environments and ranges across the sub-themes of urbanisation (and the development of suburbs), morphology and issues such as transportation.

(a)   **Using the map and your own knowledge name** *two* **factors that influenced the locations of office / business parks in the Atlanta area during the 1970s.**   *[2 marks]*

Location factors that can be inferred from the Atlanta map include:
- space required for office / business parks
- cheaper land available outside the city limits
- and access to transportation (or specifically, highways).

Award *[1 mark]* each for any two of these factors, although flexibility may be allowed for recognising other plausible answers.

(b)   **Explain how office / business parks, such as those in Atlanta, influenced the development of other functions as shown in the diagram of metropolitan growth in United States cities in the 1980s.**   *[4 marks]*

The location of office / business parks played a major role in the dispersal of these activities from locations closer to the city core, with the consequent growth of suburbs as workers were drawn closer to their place of employment and the emergence of major regional centres to serve the need of a professionally trained and middle class workforce.

This question calls for candidates to study the diagram very carefully and to see the interrelationship between its component parts *[2 marks]*. Within those limits it is relatively open-ended and discretion should be used in awarding up to *[2 marks]* for answers that reveal an understanding of those interrelationships.

(c)   **Using the diagram of metropolitan growth in United States cities in the 1980s, explain the location of low income residents.**   *[2 marks]*

Low income residents would be concentrated in and near the old CBD – where the deterioration of former wealthy residential areas created high-density, low-income slums, rooming houses and sometimes ethnic ghettos – and older industrial suburbs where workers' homes were closer to the factories that employed them. Low income residents would not be found on metropolitan fringes whose office parks attracted the professional middle class and whose residential areas attracted the wealthy. Candidates may receive a maximum of *[2 marks]* for explaining this association of low income and place.