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GEOGRAPHY

Higher and Standard Level

Paper 2

11 pages

1. (a) Describe the changes shown in the diagram. ***[5 marks]***

It is expected that candidates will identify and describe the main changes evident in the diagram, which could be summarised as an ageing of the population *[1 mark]*. Candidates should especially highlight the reduced proportion of 0–14 year olds between 1750 and 2000 (31 % to 19 %), with most of the reduction occurring since 1900 *[1 mark]*. The other key trend is the change in the proportion of people aged 65 and over, which has increased from 6% in 1750 to 19% in 2000, with almost half of that increase occurring since 1950 *[1 mark]*. If other equally important facts are presented, marks may be awarded accordingly. The remaining *[2 marks]* should be awarded on the basis of candidates presenting accurate trends illustrated by relevant data. To aid examiners, the precise values of the data in the diagram are as follows:

	1750	1800	1850	1900	1950	2000
0–14	31	31	33	31	24	19
15–39	41	40	42	39	35	32
40–64	22	23	21	22	31	30
65+	6	6	4	8	10	19

(b) Account for the changes shown in the diagram with reference to the demographic transition model. ***[5 marks]***

Candidates should relate the data in the diagram to the demographic transition model to provide a framework in which to answer this question. Candidates should recognise that the country shown in the graph (which is actually Sweden) had a stable population structure between 1750 and 1800, indicative of stage 1 of the demographic transition model. Between 1800 and 1850, the proportion of young people increased while the proportion of older people declined, indicating stage 2 of the demographic transition model. Between 1850 and 1950, the reverse trend occurred, indicating stage 3 of the demographic transition model, while between 1950 and 2000 the almost equal proportions of young and old people indicates a strong likelihood of zero population growth typical of stage 4 of the demographic transition model. To gain full marks, candidates should refer to at least some specific figures to illustrate their responses. Candidates who simply describe the demographic transition model without relating it adequately to the data in the diagram should not be awarded more than *[2 marks]*.

(c) Describe and account for the demographic changes in a country with a pattern of change which is different from the one shown in the diagram. ***[10 marks]***

It is expected that most candidates will select an economically less developed country (ELDC) in order to provide the contrast required by the question. Where candidates select a country with a pattern of population change which is similar to that shown in the graph, candidates will penalise themselves by having little to write about, so markers need not be concerned with imposing additional penalties. The demographic changes and the reasons for them will vary depending upon the example selected, and marks should be awarded on the bases of factual accuracy, adequacy of relevant detail and depth of reasoning.

2. (a) Explain what is meant by *economic inputs*, *socio-political inputs*, and *physical inputs*; and give examples of each. ***[6 marks]***

Economic inputs are factors coming in to a farm from external sources or influencing it which are financial in nature *[1 mark]*. Socio-political inputs are factors influencing a farm which result from the farm's (or farmer's) cultural or political milieu *[1 mark]*. Physical inputs are factors in the natural environment which affect the operations of a farm *[1 mark]*. *[1 mark]* should be awarded where at least two accurate examples are provided for each of the three types of input (*i.e.* total of *[3 marks]*).

(b) Describe the differences between subsistence and commercial farming which are shown in the diagram. ***[4 marks]***

Candidates should note that the main difference between subsistence and commercial farming is the destination of the produce *[1 mark]*. Subsistence farms use most of their input within the farm household, while commercial farms send most of their output to markets *[1 mark]*. In the case of commercial farms, the revenue generated from market sales provide a source of economic input for the farm *[1 mark]*. The remaining *[1 mark]* should be awarded where candidates amplify this information in a useful way, such as by noting that even subsistence farms usually send a little produce to market while most commercial farms will also retain a little output for the farm household's use.

(c) With reference to an area of *either* subsistence *or* commercial agriculture, account for the major changes which are occurring in farming in that area today. ***[10 marks]***

The focus of this question is agricultural change in an area the candidate has studied. The question leaves open the size of the area selected, which could be as small as a single farm or which could be as large as a sub-continental region; such as the Wheat-Sheep Belt of Australia or the Sichuan Basin of China. The cause of changes may be economic, socio-political or physical, or a combination of these factors, and the candidate's information should be treated on its merits for accuracy, relevance and explanation. The emphasis of the question is current changes which are occurring today. Thus, candidates who provide historical rather than contemporary examples may not be awarded more than *[6 marks]* where examples are at least a decade old, and not more than *[3 marks]* for examples which are at least half a century old. Changes which are described in the past tense but which are still occurring, either in fact or as aftermath, are quite acceptable.

3. (a) Describe the processes shown in the diagram which lead to earthquakes and volcanic eruptions. ***[10 marks]***

Candidates expected to provide a reasoned explanation of the processes of crustal plate movement, involving the formation of mid-oceanic ridges, subduction zones, folding of crustal plate material and the formation of volcanoes and earthquakes. The occurrence of both earthquakes and volcanoes should be explained; where either is omitted, no more than *[7 marks]* may be awarded.

(b) Explain ways in which countries at different levels of economic development can minimise the risk of natural hazards such as earthquakes or volcanic eruptions. ***[10 marks]***

Candidates are expected to recognise that a volcanic eruption or earthquake occurring in an ELDC will probably cause a greater injury and loss of life than a similar event in an EMDC. This is because of a range of factors, including level of preparedness, quality of construction of buildings and infrastructure, quality of hazard response services, *etc*. Candidates should discuss differences such as these, together with the appropriate responses of countries given their different resource endowments and levels of development. To be awarded full marks, illustrative examples and reasoned explanations should be provided.

4. (a) Describe the relationship between the pattern of female illiteracy and the broad world pattern of economic development. ***[6 marks]***

Candidates are expected to recognise the close similarity between female illiteracy and the general pattern of spatial variation in the level of global economic development as measured by most other indicators *[1 mark]*, recognising that countries with high rates of female illiteracy tend to be less economically developed, and vice versa *[1 mark]*. Candidates should discuss this relationship, preferably by giving specific illustrative examples based on data from the map from several parts of the world with different rates of female illiteracy *[4 marks]*. It is possible that candidates could respond to this question by mentioning the North-South divide (as indicated by the Brandt line in the diagram) and use this as the sole basis for distinguishing between ELDCs and EMDCs. Such a response should not gain full marks, but it could be worth as much as *[4 marks]*.

(b) Identify two other indicators of development, one quantitative and one composite, and discuss their adequacy as measures of development. ***[14 marks]***

Candidates have a wide range of possibilities within the parameters of this question. One indicator chosen should be quantitative (such as GNP per capita, energy consumption per capita, daily calorie consumption per capita, protein consumption per capita, percentage of the labour force in agriculture, literacy rates, population per doctor, average life expectancy and infant mortality rates), while the other indicator should be composite (such as HDI [Human Development Index], PQLI [Physical Quality of Life Index]). Where both factors chosen are either quantitative or composite, a maximum of *[9 marks]* may be awarded. Where only one indicator is discussed a maximum of *[7 marks]* may be awarded. The focus of the question is the adequacy of the indicators selected, and marks awarded for this question should concentrate on the degree to which reasoned and explanatory arguments are provided.

5. (a) On the basis of the evidence in the graphs, suggest which country, A or B, is more economically developed, and give reasons for your suggestion. ***[5 marks]***

Candidates must recognise that Country A is the economically less developed country *[1 mark]*. This is on the basis that half the population in Country A is employed in agriculture *[1 mark]*, while in Country B only 5 % of the population is employed in agriculture *[1 mark]*. The remaining *[2 marks]* should be awarded for additional relevant reasons, such as the 15 % of people in the informal sector and unemployed in Country A, 8 % of the workforce employed in manufacturing in Country A compared with 27 % in Country B, and about two-thirds of the population employed in tertiary industries in Country B.

(b) Suggest likely reasons for the different percentages of people employed in agriculture in the two countries shown in the diagram. ***[5 marks]***

Candidates should discuss the difference in proportions of the workforce employed in agriculture in the two countries in terms of the differences between subsistence farming (which would dominate in Country A) and commercial farming in Country B, where large surpluses are provided for the non-agriculture population through the markets *[2 marks]*. The comparative productivity of the farming sectors should also be discussed, mentioning differences in the levels of mechanisation and purchased inputs such as fertilisers, pesticides, *etc [2 marks]*. An additional *[1 mark]* may be awarded for additional relevant explanatory information or for outstanding detail in the preceding discussion.

(c) Suggest likely reasons for the different percentages of people employed in tertiary industry (services) in the two countries shown in the diagram. ***[10 marks]***

Candidates should recognise that figures for workforce employed in tertiary industry (services) are obtained by adding the statistics for Transport, Commerce and Professions in each country. Therefore, in Country A the proportion of the workforce involved in services (excluding the informal sector) is about 28 % compared with about 65 % in Country B. This difference reflects factors such as the higher level of disposable incomes in Country B, the higher expectations of service provision in Country B due to higher standards of living, the greater demand for professional services in Country B due to technological and educational demands, and so on. This is an open ended question, and so candidates' arguments should be treated on their merits in terms of factual accuracy, explanation, logic, clarity and detail. However, the focus of the answer must remain the **reasons** for the differences in employment in tertiary industry between the two countries; responses which simply discuss the differences in a generalised manner should not be awarded more than *[6 marks]*.

6. (a) Referring to cities listed in the diagram, explain why the growth rates of various large world cities are expected to differ from each other over the next few years. ***[10 marks]***

To answer this question adequately, candidates must reflect on the differences between cities in ELDCs, where the populations are expected to grow rapidly, and cities in EMDCs, where populations are expected to grow only slightly if at all *[3 marks]*. A total of *[7 marks]* are available for the discussion on the reasons that this is so. It is expected that better responses will contrast the process of rural-urban migration which dominates in cities in ELDCs with processes such as counter-urbanisation and inner city decay in EMDC cities. Candidates may also contrast the rates of natural population growth in cities in ELDCs with those in EMDCs. Reference must be made to cities in the diagram; if this is not done then no more than *[6 marks]* may be awarded for the total question.

(b) Compare the geographical problems which are likely to affect cities experiencing different rates of urban growth in the years ahead. ***[10 marks]***

To answer this question adequately, candidates must compare the different problems which are likely to confront cities in ELDCs with those likely to occur in EMDCs. Although this question would probably be answered most adequately with references to several illustrative examples from cities in both ELDCs and EMDCs, it is not a requirement of the question to do so and no penalty should be imposed for not doing so. Problems such as housing, water supply, waste disposal and lack of basic services and infrastructure are most likely to affect cities with a rapid rate of growth to 2015, while problems such as inner city decay and lack of services for the elderly are more likely to affect cities with slower or minimal growth to 2015. Some problems, such as transportation, air pollution and various (though differing) social issues have the potential to affect cities regardless of their projected population growth rates. If candidates discuss only cities with similar projected growth rates, no more than *[5 marks]* may be awarded.