

Model answers to Section 4 end-of-chapter review questions

The review examination questions at the end of each chapter in *Geography for the IB Diploma: Patterns and Change* are based on the style of question found in Section A of Paper 1. Model answers to selected questions are given here.

The mark allocation for all the questions that follow, unless stated otherwise, is:

a 2 marks **b** 3 marks **c** 5 marks.

14 Patterns of resource consumption, page 240, question 2

- a** The graph shows food supply increasing at a constant rate. At first population grows more slowly than food supply, but then the rate of population growth increases and this then occurs at an increasingly rapid rate. Good candidates may link this to the terms 'arithmetical progression' for food supply and 'geometrical progression' for population growth.
- b** Answers may begin by stating that the neo-Malthusians are resource pessimists, and should focus on:
- the steady global decline in the area of farmland per person
 - the steep rise in the cost of many food products in recent years
 - the already apparent impact of climate change on agriculture in some world regions
 - the growing scarcity of many other resources such as water, fish and oil
 - the continuing increase in the world's population.
- c** Answers should stress that the anti-Malthusians are resource optimists who believe that human ingenuity will continue to solve resource problems, as has happened so many times in the past. Discussion is likely to focus on:
- the development of new resources
 - the replacement of less efficient with more efficient resources
 - important advances in agricultural research
 - stabilising levels of consumption in some developed countries
 - the rapid development of green technology with increasing research and development.

15 Changing patterns of energy consumption, page 258, question 1

- a** China's consumption of oil increased from approximately 68 million barrels of oil a day in 1992 to 77 million barrels of oil a day in 2000. By 2006 China's consumption had risen to approximately 85 million barrels of oil a day. This is an increase of about 25% in the 14-year period under consideration. During this time period China's oil consumption increased from 3.8% of the world total to 8.6%.
- b** Answers should focus on the development of China as a newly industrialised country with very high rates of economic growth in recent decades. Rapid economic growth requires increasingly large energy inputs, particularly oil. Virtually every sector of the economy has needed to use more oil, particularly for industry and transportation. Reference might also be made to increasing urbanisation with higher per capita energy use in urban areas compared with rural areas, more people being able to afford their own cars as income levels rise, and population growth (even though the rate of growth has slowed in recent decades).
- c** Such a rapid increase in the demand for oil in China has had a very significant impact on the global oil situation. However, China is not the only newly industrialised country using more oil. A similar situation has been occurring in other countries such as India and Brazil, although on a lesser scale. This has occurred at a time when production has been declining in many of the world's major oil fields. With high demand and limited supply the price of oil has risen considerably, albeit with fluctuations. Higher oil prices have spurred oil companies to explore in more remote regions where the cost of exploration and development is much higher compared with traditional oil-producing regions. Development in such regions is not economically viable when the oil price is low, but becomes economic at a higher price.

At one time China was self-sufficient in oil, but now it is a major importer. The country has invested heavily to secure sources of oil abroad, with particular emphasis on Africa in recent years. Some economists have termed this 'the new scramble for Africa'.