

## Model answers to Section 2 end-of-chapter review questions

The review examination questions at the end of each chapter in *Geography for the IB Diploma: Global Interactions* are based on the style of question found in Paper 3. Model answers to selected questions are given here.

Questions in Paper 3 are in two parts: part **a** carries 10 marks and part **b** carries 15 marks. The markbands for Paper 3 are found on pages 58 and 59 of the IB Geography Guide. For part **a** the level descriptors range from A (0 marks) to E (9–10 marks). For part **b** the level descriptors range from A (0 marks) to E (13–15 marks).

### 3 Time–space convergence and the reduction in the friction of distance, page 42, question 1

- a** Answers will probably begin with a definition of the friction of distance and may note that this is a traditional geographical concept which has been affected in a big way by modern developments in transport and communications. Discussion is likely to focus on some or all of the following:
- Distance is seen as a disadvantage due to the time and cost involved to overcome it.
  - The effect of the friction of distance is to create a distance decay in the use of a service or the performance of another activity. Thus there is a reduction in the amount of movement or spatial interaction between two places the greater the distance they are apart.
  - The concept is affected by the uneven distribution of phenomena in the real world. The friction of distance in relation to a particular place may vary according to direction if there are significant variations in the physical and human landscape.

Exemplification would be welcome and a simple annotated diagram can be useful in aiding explanation.

- b** The concept of time–space convergence should be defined, with answers making the point that time–space convergence means that the friction of distance is being reduced. Time–space convergence is a direct consequence of transport innovation which may be the result of (a) advances in the mode of transport itself or (b) improvements in transport infrastructure that allow the mode of transport to operate more efficiently. Either or both advances allow people to travel more quickly over a set distance, reducing the friction of distance. Examples of global shrinkage may be quoted from standard diagrams in textbooks, e.g. propeller aircraft – jet aircraft – supersonic aircraft. The best candidates may quote figures. Time–space convergence is sometimes viewed in terms of cost rather than time.

Some answers may question the assumption that the process of time–space convergence will continue. Here reference might be made to restrictions that societies place on time–space convergence. Examples are speed limits on motorways, and air traffic control limitations. High usage of infrastructure can lead to congestion and increasing travel times or time–space divergence. Environmental sustainability may be presented as a major factor influencing any future changes in the friction of distance.

**4 Extension and density of networks, page 56, question 1**

- a** A definition of the term ‘Internet penetration rate’ should be provided. Answers to this part of the question may be influenced to a certain extent by the year the data are studied:
- 2009 data show a very significant gap between the developed and developing worlds.
  - More detailed analysis by world regions shows the highest penetration rate in North America (76.2%), followed by Oceania (60.8%) and Europe (53.0%). Expect some comment on the degree of difference between these three world regions. For example, the Internet penetration rate in North America is over 20% higher than that in Europe.
  - This contrasts sharply with the developing regions of the world: Latin America/Caribbean (31.9%), Middle East (28.8%), Asia (20.1%) and Africa (8.7%). Expect some comment on these differences, with the Internet penetration rate in Africa being less than half that of the next lowest region (Asia).

There may be some reference to individual countries such as the contrast between the UK and China.

- b** Expect answers to introduce the term ‘digital divide’ – the common term used to refer to inequalities in access to ICT. The focus here is on global geographic regions but the digital divide can also be recognised in terms of: urban and rural areas, ethnic and socio-economic groups in the same country, different age groups, males and females.

The main discussion in this section should centre on:

- The development gap: access to the Internet costs money, so (a) people in wealthier countries are more able to afford Internet access, (b) governments are more likely to supply (free or limited charges) Internet access at certain points such as libraries, (c) because the Internet has become so much part of the commercial environment there has been an increasingly high incentive for households to use the Internet for commercial as well as social activities.
- National government policies: these usually encourage Internet penetration to varying degrees but governments can also place restrictions on Internet usage. Most national governments see increasing Internet access (and the ICT skills that go with it) as an important factor in a country’s economic development.
- International infrastructure connectivity: the relative isolation of East Africa until recent years is an example of the importance of this factor. Until recently the region was only linked by satellite connection resulting in very slow and costly linkage.

Credit other relevant factors. Better candidates may make the point that it is not just Internet connection in itself but also the speed of connection that is becoming increasingly important, and this can vary significantly within countries as well as between countries.