

X208/303

NATIONAL
QUALIFICATIONS
2009

WEDNESDAY, 27 MAY
10.50 AM – 12.05 PM

GEOGRAPHY
HIGHER
Paper 2
Environmental
Interactions

Answer any **two** questions.

Write the numbers of the **two** questions you have attempted in the marks grid on the back cover of your answer booklet.

The value attached to each question is shown in the margin.

Credit will be given for appropriate maps and diagrams, and for reference to named examples.

Questions should be answered in sentences.

Note The reference maps and diagrams in this paper have been printed in black only: no other colours have been used.



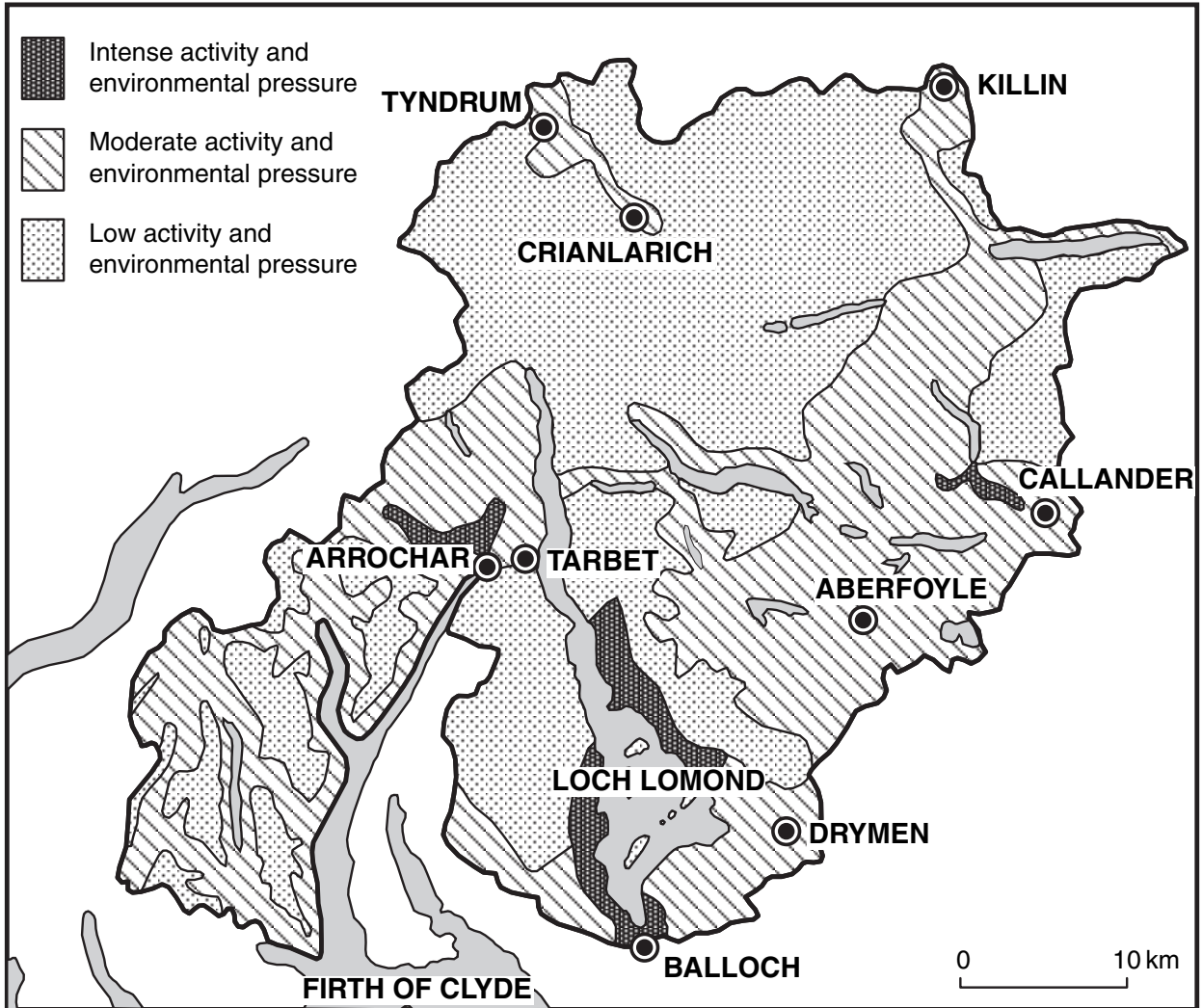
Question 1 (Rural Land Resources)

Loch Lomond and the Trossachs became Scotland's first National Park in 2002. It covers 1865 square kilometres of lowland, river, loch, forest and mountain landscapes.

- (a) **Describe** and **explain**, with the aid of annotated diagrams, the formation of the main glacial features of the Loch Lomond and the Trossachs National Park **or** any other glaciated upland area in the UK that you have studied. **20**
- (b) With reference to Loch Lomond and the Trossachs **or** any other named upland area that you have studied, **explain** the social and economic opportunities created by the landscape. **10**
- (c) Study Reference Diagram Q1.
- Reference Diagram Q1 shows the Loch Lomond and the Trossachs National Park to be under intense environmental pressure in certain key areas. With reference to this area or any **named** upland area you have studied:
- (i) **describe** and **explain** the environmental conflicts that may occur (you should refer to named locations within your chosen upland landscape); **10**
- (ii) **describe** specific solutions to these environmental conflicts commenting on their effectiveness. **10**
- (50)**

Question 1 – continued

Reference Diagram Q1 (Loch Lomond and the Trossachs:
Environmental Activity and Pressure)



[Turn over

Question 2 (Rural Land Degradation)

The Sahel is a 500 kilometre wide zone which runs across Africa along the southern edge of the Sahara Desert. The Sahel is under intense pressure from human activity which, combined with climate change, has created a “spiral of desertification”.

(a) Study Reference Diagram Q2.

Describe the changes in rainfall patterns shown on Reference Diagram Q2. **6**

(b) For **either** Africa north of the Equator **or** the Amazon Basin:

(i) **explain** how human activities, including inappropriate farming techniques, have contributed to land degradation; and **18**

(ii) **describe** some of the consequences of land degradation on the people and their environment. **10**

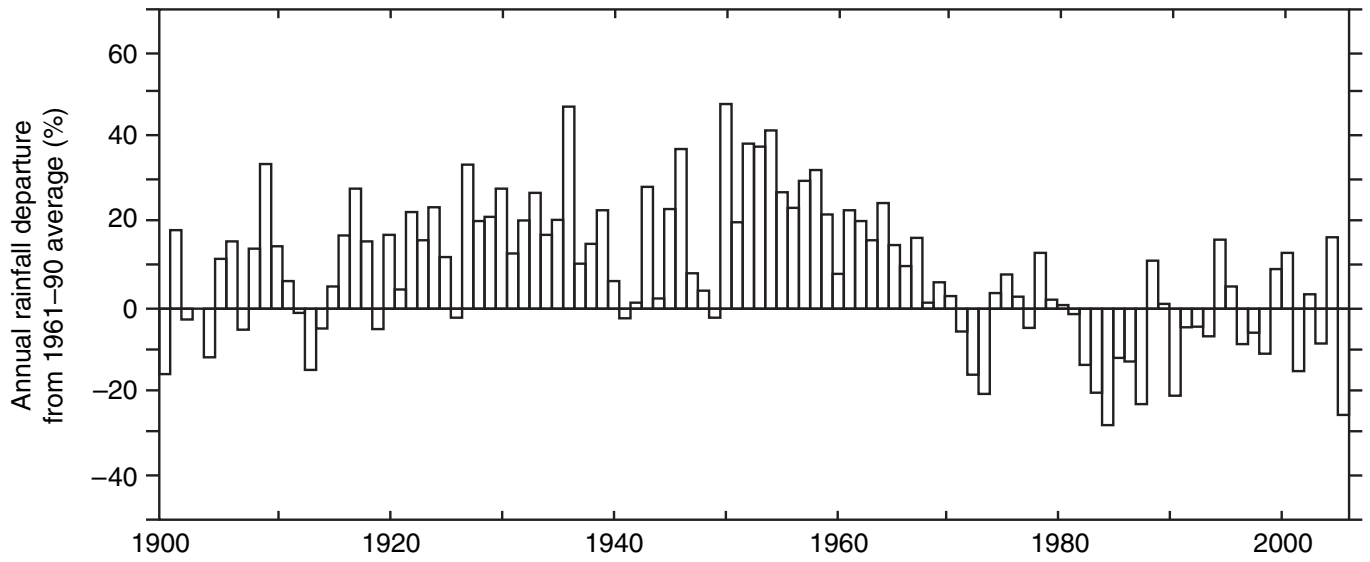
(c) Referring to **named** areas of **North America** which you have studied:

(i) **describe** some of the measures which have been taken to conserve soil and limit land degradation; and

(ii) **comment on** the effectiveness of these measures. **16**
(50)

Question 2 – continued

Reference Diagram Q2 (Rainfall Variability in the Sahel)



[Turn over

Question 3 (River Basin Management)

- (a) Study Reference Table Q3 and Reference Map Q3.
Explain the need for water management in the Colorado Basin. **10**

 - (b) **Explain** the physical **and** human factors that have to be considered when selecting sites for dams and their associated reservoirs. **14**

 - (c) Study Reference Diagram Q3 and Reference Map Q3.
 For the Colorado River Basin, **or** another river basin in North America, **or** in Africa, **or** in Asia, that you have studied:
 - (i) **describe** the problems caused by the river flowing through more than one state or country;
 - (ii) **suggest** ways in which these problems may be overcome. **10**

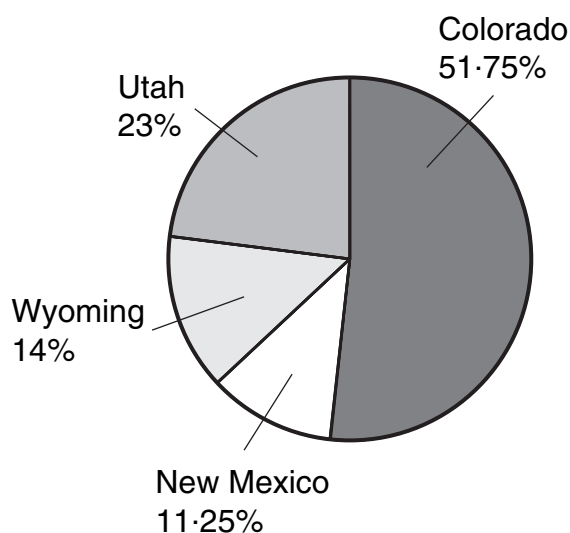
 - (d) **Describe** and **explain** the social, economic and environmental **benefits** of a **named** water control project in North America **or** Africa **or** Asia. **16**
- (50)**

Reference Table Q3 (Population Growth in Las Vegas and Phoenix)

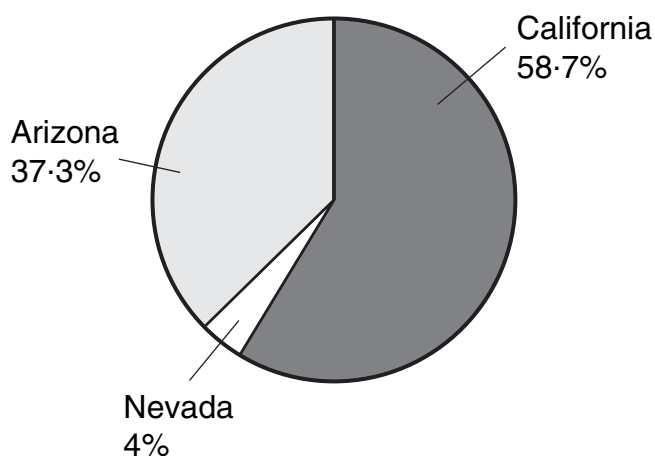
Selected city	1990 Population	2000 Population	Population change (1990–2000)
Phoenix	2 238 480	3 251 876	+45%
Las Vegas	741 459	1 375 765	+85%

Reference Diagram Q3 (The Colorado River Water Allocation)

Upper Basin—Water allocation

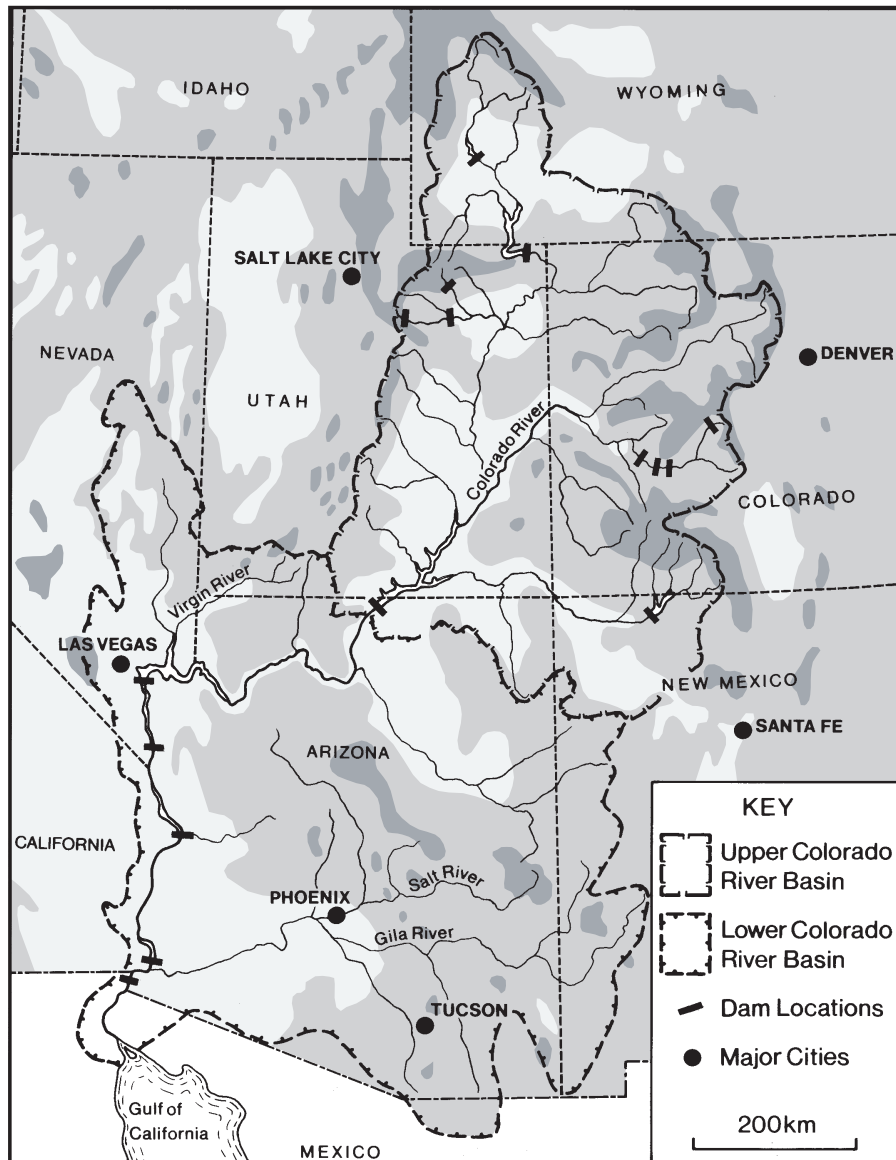


Lower Basin—Water allocation



Question 3 – continued

Reference Map Q3 (The Colorado River Basin)



Mean annual precipitation (mm) over 625 250–625 under 250

[Turn over

Question 4 (Urban Change and its Management)

(a) Study Reference Map Q4A.

Describe and **account for** the distribution of major cities in **either** Spain **or** any other EMDC (Economically More Developed Country) that you have studied.

10

(b) *“Kibera is one of almost 100 shanty towns in Nairobi, the capital city of Kenya. More than half of Nairobi’s 3 million people live in these shanties, which in total occupy less than 2% of the city’s land area.”*

With reference to a named city that you have studied in an ELDC (Economically Less Developed Country):

(i) **describe** the social, economic and environmental problems often found in these shanty town areas;

12

(ii) **describe** the methods the shanty dwellers and the city authorities might use to tackle these problems, and comment on the effectiveness of these methods.

8

(c) Study Reference Map Q4B.

The map shows the Aberdeen Western Peripheral Route (AWPR), a proposed new road to improve traffic management in and around Aberdeen and the North-east of Scotland.

For Aberdeen, or a **named** city that you have studied in an EMDC:

(i) **describe** and **explain** why it suffers from traffic congestion;

12

(ii) **suggest** why the building of major new roads such as the AWPR may lead to protests and land-use conflicts.

8

(50)

Question 5 (European Regional Inequalities)

(a) Study Reference Table Q5.

Describe and **suggest reasons** for the differences in levels of development between the pre-2000 EU member states and the post-2000 EU member states.

10

(b) Study Reference Map Q5.

(i) **Describe** the distribution of the regions which were eligible for European grants under Objective 1 support (2000–2006).

8

(ii) **Explain** how EU initiatives such as Objective 1 support might improve the less prosperous regions of the European Union.

8

(c) “The European Cohesion policy (2007–2013) aims to contribute towards economic and social cohesion within the EU by reducing regional differences and human inequality within member states.”

For any named country you have studied in the European Union:

(i) **describe** the physical and human factors which have led to regional inequalities;

18

(ii) **outline** the steps taken by the national government to tackle these regional inequalities.

6

(50)

Reference Map Q5 (European Union Objective 1 Funding)

Regions eligible under Objective 1

(Objective 1: Supporting development in less prosperous regions)

Question 5 – continued

Reference Table Q5 (European Union Statistics Ranked in Order)

Pre-2000 Member States				Post-2000 Member States			
Country	Year of EU membership	GDP (ranked)*	HDI (ranked)*	Country	Year of EU membership	GDP (ranked)*	HDI (ranked)*
Belgium	1957	6	6	Cyprus	2004	14	17
France	1957	11	9	Czech Rep	2004	17	18
Germany	1957	10	13	Estonia	2004	20	22
Italy	1957	12	10	Hungary	2004	21	20
Luxembourg	1957	1	5	Latvia	2004	24	25
Netherlands	1957	3	3	Lithuania	2004	23	23
Denmark	1973	5	8	Malta	2004	18	19
Ireland	1973	2	1	Poland	2004	25	21
UK	1973	8	11	Slovakia	2004	22	24
Greece	1981	15	14	Slovenia	2004	16	15
Portugal	1986	19	16	Bulgaria	2007	26	26
Spain	1986	13	12	Romania	2007	27	27
Finland	1995	9	4				
Sweden	1995	7	2				
Austria	1995	4	7				

GDP Gross Domestic Product per capita reflects total of all goods and services per head of population

HDI Human Development Index (covering poverty, education, health)

*Ranking 1–27 with 1 best and 27 worst

[Turn over

Question 6 (Development and Health)

- (a) Study Reference Map Q6 which shows the Human Development Index (HDI) for countries of the world.

Explain the advantages of using a composite indicator of development such as the HDI rather than a single indicator.

4

- (b) Referring to named examples, **suggest reasons** why there is such a wide range in levels of development **between** different ELDCs (Economically Less Developed Countries).

12

- (c) For malaria, **or** bilharzia, **or** cholera:

(i) **describe** the human and environmental factors that can contribute to the spread of the disease;

6

(ii) **describe** the measures that have been taken to combat the disease;

12

(iii) **explain** how the eradication or control of the disease would benefit ELDCs.

6

- (d) “Resources need to be targeted at improving Primary Health Care if we are ever going to improve the health of people in ELDCs.” Aid worker

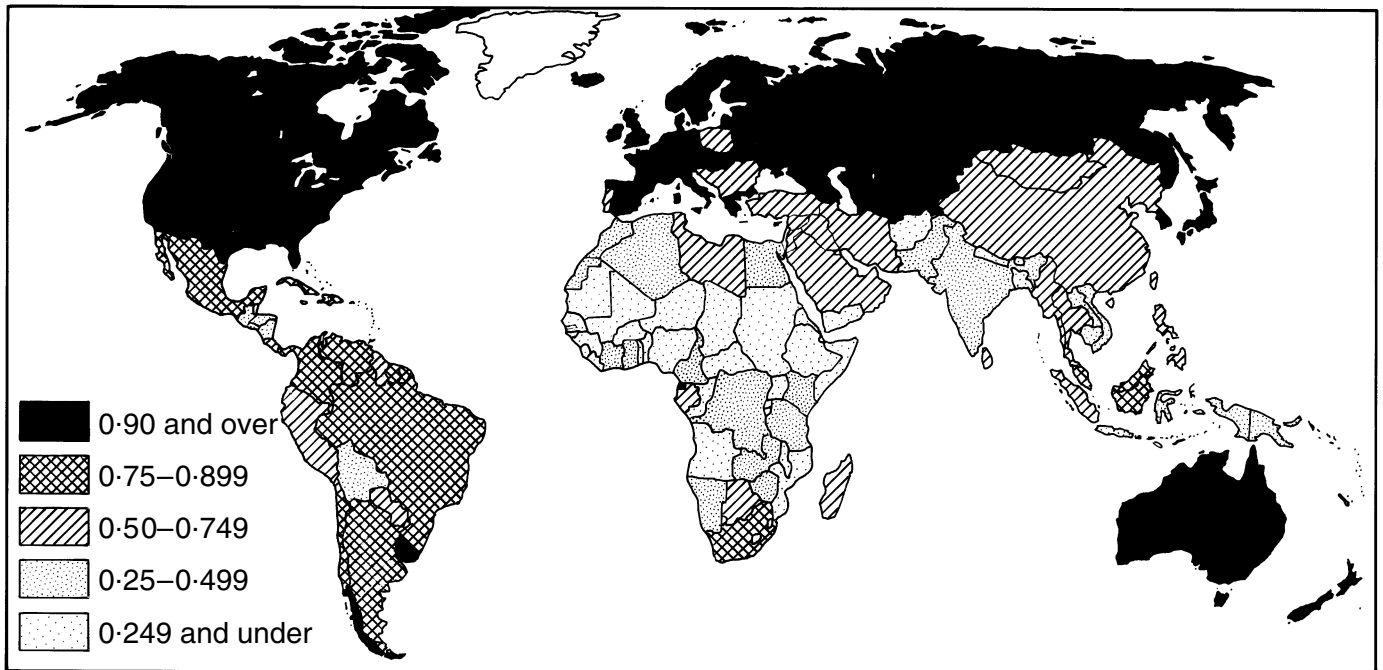
Describe some of the strategies involved in Primary Health Care and **explain** why these strategies for improving health standards are suited to people living in ELDCs.

10

(50)

Question 6 – continued

Reference Map Q6 (The World: Human Development Index)



The Human Development Index measures development by combining three individual measures. These measures are:

- adult literacy rate;
- life expectancy;
- real Gross Domestic Product (ie what an income will actually buy in a country).

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