

2006 Geography

Intermediate 2

Finalised Marking Instructions

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Physical Environments

Question 1

1 mark for each correct answer

- (a) (i) River Severn
(ii) Lake District/Cumbrian Mountains
(iii) Connemara/West Ireland **3 marks**

- (b) 4 correct 3 marks
3 or 2 correct 2 marks
1 correct 1 mark

- A River Twiss
B Woodland Trust
C River Doe
D B6255 **3 marks**

- (c) **Mark 3:3, 4:2 or 2:4.**
Answer must refer to features labelled on the diagram.

Limestone Pavement: Glaciers eroded the surface vegetation and soil (1). Rainwater contains carbon dioxide in solution/weak acid (1) which dissolves the limestone (1). The joints in the limestone are widened (1) and clints and grykes are formed (1).

Stalactite: Water containing dissolved limestone drips downwards (1). Some of the water evaporates (1) leaving behind solid calcium carbonate (1) in the shape of an “icicle” (1). **6 marks**

- (d) For full marks, economic and environmental impacts must be mentioned. Maximum of 4 marks if no specific reference is made to the OS Map. Max 1 for grid reference.

Economic: Quarrying in grid reference 7074 (1) creates alternative jobs in the area (1). Jobs bring money into the area eg local shops benefit (1) and may help keep young people in the area (1). Quarrying creates pollution which may put tourists off visiting the area (1). Accept references to quarrying past and present.

Environmental: Quarries create a large hole in the ground which is a scar on the landscape (1). Large amounts of dust are created when explosives are used (1). Lorries transporting limestone eg along the B6255 create noise and air pollution (1) and can cause congestion on local roads eg B6255 (1). **5 marks**

(e) (i) No mark for naming area.

Farmers and Tourists: Walkers may climb over stone walls and damage them (1). Walkers dogs may frighten sheep (1) and walkers may drop litter which animals could eat (1). Gates could be left open allowing animals to escape (1). Farmers may deny walkers access to areas (1).

Tourists and Military: The noise of low flying aircraft may frighten tourists (1). Tourists often wish to access all areas and may resent military restrictions (1). Tourists may ignore warning signs and interrupt military exercises (1). Military vehicles often travel in convoy and may cause congestion on the roads for tourists (1).

4 marks

(ii) Candidates should clearly describe a range of measures.

Depending on the conflict chosen, measures could include: Educate people about the Countryside Code (1). Put up information boards at the start of walks (1) reminding people of the importance of taking litter home with them and closing gates (1). Build styles over stone walls (1). Put up warning signs about the danger of fires in forestry areas (1). Impose fines for polluting the area (1). Military exercises not to take place during holiday weekends (1). Plant a variety of trees to add interest to the landscape (1).

4 marks

Human Environments

Question 2

- (a) (i) Graph shows that in 1951 the peak age range for women having children was 24-26 with around 230 births per 1000 women (1). Over time the number of births per 1000 women gradually decreases (1). By 2001 the peak age range for women having children is 29-33 (1) and the number of births per 1000 women has dropped to about 90 (1). The overall trend shown is that of an increase in the birthing age of women (1) and the decrease in the number of births between 1951 and 2001 (1). **3 marks**
- (ii) The age that women are having children is increasing because women are marrying later (1) careers tend to take priority over having children (1) people are having fewer children as they do not want to lose their standard of living (1). Contraception is more widely used and available (1).
- Or any other relevant point. **3 marks**
- (iii) If the population continues to decline and the proportion of older people continues to increase then there will be less people of working age to pay taxes (1) which can be used to provide services eg schools, hospitals (1), less people working to keep the economy going (1). There will be a lot of people to provide pensions for which is expensive (1). Could put the health service under serious strain (1), need for more accommodation for elderly patients (1).
- Or any other relevant point. **4 marks**
- (b) (i) Line Graph: 1 mark for correct scale, 1 mark for plotting and joining points correctly, 1 mark for key. **3 marks**
- See attached graph.**
- (ii) Answers might refer to: Places like London have introduced a toll for vehicles entering the city (1). Public transport is being improved in places like London (1). Pedestrianised areas are being created in some city centres (1). Banning certain types of vehicles in the city to avoid congestion (1). Building outer ring roads (1). Building underground metro systems (1).
- Or any relevant point. **3 marks**

(c) Advantages might include:

Crop yields have increased (1) which means an increase in income (1) which can then be used to improve overall standard of living (1).

Disadvantages might include:

Farmers unable to afford tractors, seeds and fertilisers have become relatively poor (1). Mechanisation has increased unemployment (1). Farmers who have to borrow money to buy fertilisers and seeds are likely to get into debt (1).

Or any relevant point.

4 marks

Both advantages and disadvantages should be referred to for full marks

(d) Advantage: It is providing a range of jobs for people (1) and facilities and entertainments which they may not previously have had close access to (1). Housing and jobs will be available in the same area (1). It is easily accessible (1) redeveloping a derelict site makes it more attractive (1).

Disadvantage: The jobs are service based and many people might not be able to do them (1) as they have no training and are only skilled in manufacturing (1) as a result jobs may go to outsiders (1). Building a retail park here will reduce money spent in neighbouring towns (1) and may lead to unemployment in surrounding areas (1).

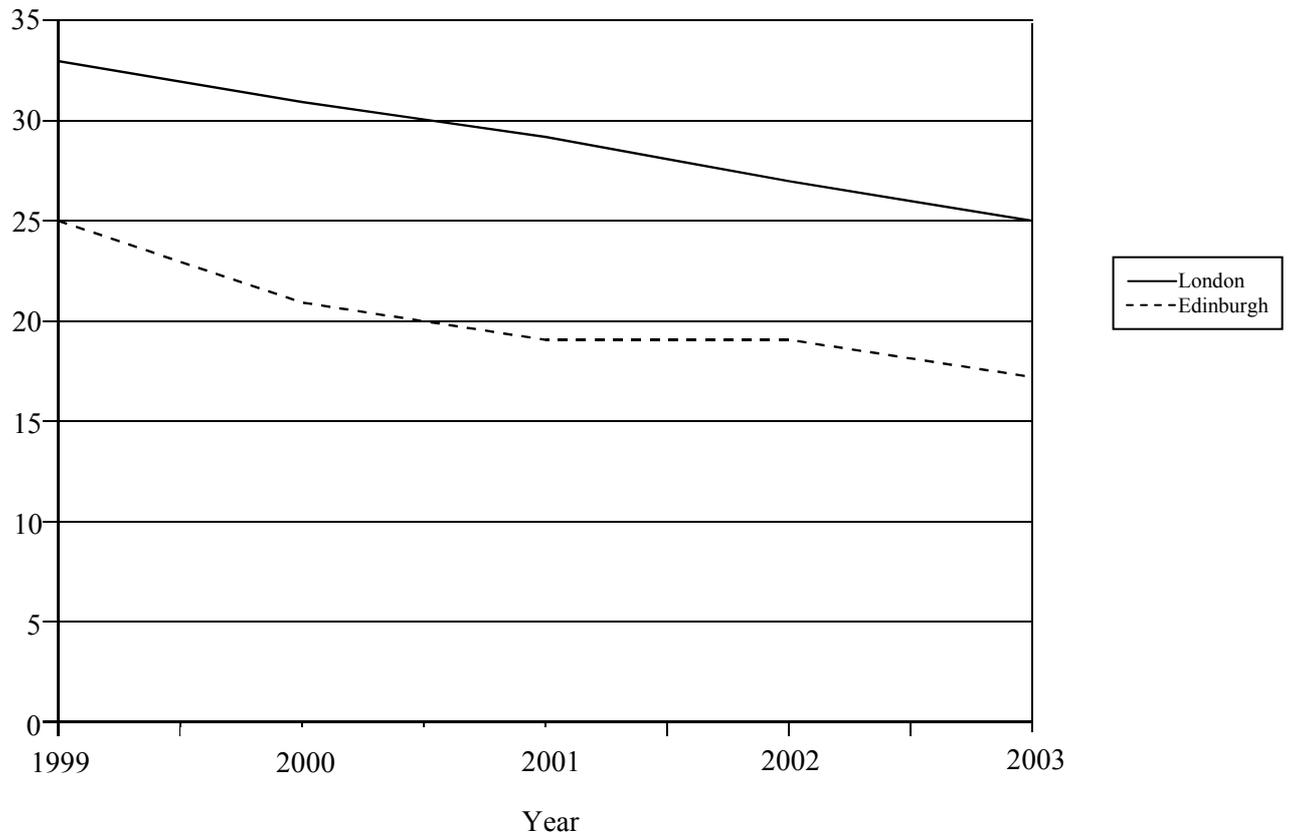
A combination of yes and no answers can be accepted as long as these are fully justified.

Both advantages and disadvantages should be referred to for full marks

5 marks

Question 2 (b) (i)

Average Annual NO₂ concentrations for two British Cities



Environmental Interactions

Rural Land Degradation

Question 3

- (a) Loss of tree cover increases soil erosion (1). Increased flooding (1). Reduction in wildlife habitat (1). Less convectional rainfall, climate becomes drier (1). Possible desertification (1). Tribal communities forced out (1).

Or any other relevant point.

5 marks

- (b) (i) **Mark 2:4, 3:3 and 4:2**

Physical: Prolonged drought over period of time (1). Failure of seasonal rains (1). Lack of cloud cover and higher temperatures (1). Effects of wind erosion (1).

Human: Increasing population/expanding settlement (1). Increased demand for food (1). Over cultivation/monoculture (1). Vegetation cut down for firewood (1). Overgrazing speeds up soil erosion (1).

6 marks

- (ii) In Sahel areas: Stabilisation of dunes with fencing and/lines of drought resistant plants such as cactus slows down sand movement (1) but plants take a long time to establish themselves (1). Contour ploughing effectively reduces runoff (1) 'magic stones' to prevent runoff and erosion – cheap and effective, low technology (2). Irrigation is effective but costly (1) and causes salts to build up (1).

For full marks candidates must evaluate the effectiveness of different methods, otherwise mark out of three.

Max 1 mark for 'measures' only mentioned.

4 marks

River Basin Management

Question 4

- (a) (i) Dam X is the best and so 4 marks can easily be picked up for this area. If other areas are picked, credit can still be awarded for relevant points. Accept negative points about other areas in the answer.

Dam X: Is the best position as it has a large number of tributaries to provide more water (1), it is surrounded by moorland so there will be high level of run off (1), it has impermeable rock so water will not drain away (1), it is surrounded by a couple of high hills leading to run off (1).

Dam Y: Is best because there is a lot of high land surrounding it for run-off (1), it has a lot of tributaries and so will be able to provide a lot of water (1). Area Z is no use as it is too small and low lying (1). Less water will get to channel as it will be intercepted by forest (1).

Dam Z: Is best because it has impermeable rock so run off will be high (1). Area Y is no use because the rock is permeable so not a lot of water will run off (1).

4 marks

- (ii) Position 2 is the most likely. Negative points about the other area can be accepted in the answer.

Position 2: Flooding is most likely to occur at position 2 as the land upstream is a built up area (1) which means there will be high rates of overland flow (1) as water cannot infiltrate (1), if the river overflows it will not be able to drain away (1), water will get to the river quickly due to drains in the towns (1), large numbers of tributaries feed into the river channel just above this point (1).

Position 1: It is surrounded by higher land so run off will be high (1), it is just after a confluence point where 2 major river basins merge (1). Position 2 is less likely as the flow in the channel is interrupted by the town (1).

Or any relevant point.

3 marks

- (b) (i) The Aswan Dam is beneficial because it provides water for irrigation for farmers (1), it evens out the highs and lows so there is less risk from flood and droughts (1), it provides a regular supply of water for all the towns along the river (1) which is also important as this is a popular country with tourists so ensures there will be no water shortages (1). It provides cheap hydro electricity (1) and so will benefit industry and create jobs (1).

Or any relevant point

4 marks

- (ii) Problems might include: Disruption of traditional ways of making a living (1), displacements of people who then find it difficult to make a living elsewhere (1) loss of water to wetlands and loss of wildlife (1), loss of breeding grounds (1), political conflict if the dam reduces the supply of water into another country (1). A lack of silt deposits when rivers flood reduces fertility in fields (1) and delta size at the mouth (1) may lead to erosion (1) salinity levels may increase (1).

Or any relevant point.

4 marks

European Environmental Inequalities

Question 5

- (a) (i) A lot of pollution is to be found along the coasts of south east England, Belgium, Netherlands and Denmark (1). The Mediterranean Sea is also polluted eg along the south coast of France and Spain (1). Some coastal areas are unaffected by pollution eg West Coast of UK and Norway (1). Severely polluted rivers are found in the north west of mainland Europe eg the River Rhine (1). Only one river flowing eastwards is severely polluted (1). **3 marks**
- (ii) Tourists may drop litter on the beaches making the area look unsightly (1). Raw sewage is often pumped into the sea as not enough sewage treatment plants have been built (1). More tourists own boats which can increase the amount of oil in the sea (1). More airports have to be built for tourists causing air and noise pollution (1). **3 marks**
- (b) More people live along the River Rhine than the River Dee so there is more domestic waste entering the river (1). More raw materials like coal are found close to the River Rhine unlike the River Dee (1). Steelworks have developed along the River Rhine which pollute the river, whereas there are no steelworks along the River Dee (1). The River Rhine is navigable but the River Dee is not. As more ships use the River Rhine eg transporting oil, this can cause pollution (1). The River Dee has a much smaller floodplain than the River Rhine so there is less arable farming so fewer nitrates enter the river (1). **4 marks**
- Or any other valid point.

(c) Mark 2:3 or 3:2

If no specific area is mentioned, award a maximum of 4 marks.

Coastal area

- (i) The government could encourage more tourists to visit inland areas in order to reduce pressure on coastal areas (1). The government could provide money for more sewage treatment plants to be built (1). Laws could be introduced forbidding the dropping of litter (1) and then fine people who break the law (1). More litter bins could be provided (1). Under EU regulations, clean beaches can be awarded a Blue Flag (1).
- (ii) Countries like Spain have been successful in increasing the number of tourists going to inland areas (1). Litter bins are emptied frequently to encourage people to use them (1) despite all these efforts, seas like the Mediterranean are still badly polluted (1).

Accept any other relevant point.

Mountainous area

- (i) The government can declare that a scenic area becomes a National Park (1) and then future developments can be controlled eg quarrying (1). Within a National Park areas can be designated for car parks and buildings (1) leaving the remoter areas untouched (1). Money can be spent on improving the footpaths to reduce erosion (1). Information boards can educate people about the importance of not picking rare mountain flowers (1). Restrict sports to certain areas eg mountain biking (1).
- (ii) Declaring an area a National Park can actually increase the number of tourists (1). Mountain bikers may resent being restricted and ignore the rules (1). Building car parks may prevent people parking on the verges (1) educating people is successful but can take time for the benefits to be realised (1). Due to the demands of tourism, mountain areas still have a lot of visual pollution eg chairlifts (1).

Accept any other valid point.

5 marks

Development and Health

Question 6

- (a) (i) **Max of 1 mark for 3 separate indicators.**
Use a range of social and economic indicators (1) including literacy and life expectancy (1). Use of composite indicators eg PQLI or HDI (1). Use of purchasing power in real terms for each country (1). **3 marks**
- (ii) **Mark 4:1 or 1:4**
Human: Better standards of education (1) higher literacy skills (1) more skilled workforce (1) better health standards (1) etc.
Physical: Developed areas have better soils/farming (1) less severe climate (1) fewer endemic contagious diseases (1) etc.
Or any other valid point. **5 marks**
- (b) (i) **Max 1 mark for list**
Candidates must specify one disease eg heart disease – lack of exercise/obesity (1) poor diet which increases cholesterol (1) smoking which narrows arteries (1) and puts pressure on the heart (1). Stress which leads to high blood pressure (1). **4 marks**
- (ii) **Max 1 mark for list**
Candidates should clearly describe three methods of controlling their chosen disease.
For either disease, candidates could mention drug treatment, education in the form of government campaigns.
Other strategies should be specific to the chosen disease eg:
for heart disease – improved diet, more exercise investigative procedures such as angiograms, by-pass surgery, reduction in smoking, stress management etc.
for AIDS – use of condoms, drug rehabilitation programmes, education campaigns for safe sex or dangers of sharing hypodermic needles etc. **3 marks**

Environmental Hazards

Question 7

- (a) Sea surface temperatures over 27°C (1) which creates rapidly rising air (1) and low pressure (1). A stream of warm moist air is drawn towards the middle (1) to provide rotational effect (1) and rises to form cumulonimbus clouds and heavy rain (1).

Descriptive statements should be linked to explanatory points.

5 marks

- (b) (i) They are found along the edges of the plate boundaries (1) as this is where the earth's crust is weakest (1) and most crustal movement takes place (1) when plates collide causing friction (1) or diverge under the ocean releasing magma (1).

3 marks

- (ii) Monitor seismograph readings (1) sampling gas emissions (1) study the pattern of previous eruptions or earthquakes (1) tilt meters to detect ground movement (1) laser technology to detect movement across fault lines (1).

Or any other relevant method.

4 marks

- (c) Candidates should refer to a specific earthquake, eruption or tropical storm eg

for earthquakes: Scientists can predict where they will occur but it is still almost impossible to predict when (1). Seismograph readings do not give enough warning (1). Despite advanced technology extensive damage and loss of life can still happen in areas such as Los Angeles or Kobe (1). It is better to design earthquake-proof buildings (1).

for volcanic eruption: Tremors and gas emissions give more warning to the local population (1) allowing time for evacuation (1). Although the landscape may be destroyed there is not much loss of life (1). Tephra, lava flows lahars and pyroclastic flows can cause widespread destruction to settlements and farmland (1) and can lead to many deaths (1).

for tropical storm: Satellite images can provide plenty of warning (1) allowing people time to evacuate (1) and protect buildings (1). Poorer island communities have nowhere to go (1) and damage is greater as building materials are weaker (1).

Or any other relevant points.

3 marks

[END OF MARKING INSTRUCTIONS]