

2005 Geography

Intermediate 2 – New Arrangements

Finalised Marking Instructions

These Marking Instructions have been prepared by Examination Teams for use by SQA Appointed Markers when marking External Course Assessments.

Geography

Intermediate 2

New Arrangements

Physical Environments

Question 1

(a) 3 x 1 mark

A = Cairngorms/Grampian Highlands

B = Pembrokeshire/SW Wales

C = Peak District

3 marks

(b) (i) 1 mark for identifying feature and 3 marks for explanation

Mark out of 2 if wrong feature but good explanation.

Sandspit (1) ('Beach' is also acceptable)

Longshore drift moves large amounts of material such as sand and shingle along the coast (2). Material is moved by the action of the waves (swash) (1) in the direction of the prevailing wind (1).

Finer material is then carried back down the beach at right angles (1) by the backwash (1). Where the coastline changes direction (1) sand and shingle are deposited in sheltered water (1). The material builds outwards and upwards forming a spit (1).

Credit should be given for an alternative explanation of beach formation.

The use of appropriate labelled diagrams should also be credited.

4 marks

(ii) Two marks for a developed point. Accept explanatory answers.

Reference could be made to groynes built at right angles to the beach (1) which prevent longshore drift (1). Recurved concrete sea walls (1) reflect wave energy (1). Large boulders (armour blocks) (1) or gabions (steel mesh and stones) (1) absorb energy (1) preventing further erosion (1).

Or any other valid point.

4 marks

(iii) The river is flowing slowly (1) through a wide valley with very gently sloping sides (1). It begins flowing in an easterly direction but turns south at 380068 (1) before heading south east towards the sea (1). The river is relatively narrow at the start but becomes wider as it flows south eastwards (1). In square 3802 the river becomes tidal (1) with sand or mud banks exposed at low tide (1). It is over 500m wide at its mouth (1).

For full marks both the river and the valley must be mentioned.

4 marks

- (iv) The oil refinery will create noise, smoke and visual pollution (1) which affects the environment of housing areas (1). The country park and heritage centre in 4607 (1) is next to a large factory which may create pollution (1). The nature reserve in 4802 may be affected by outflow from the power station (1). The farming areas to the north are next to large areas of housing and crops may be damaged (1). The route of the Solent Way goes near the A326 and the oil refinery (1) making it unattractive for walkers/ tourists (1).
Max one mark for grid reference.

5 marks

- (c) Tight planning restrictions to control new building or development (1).
Preservation of historical buildings (1).
Use of local materials and traditional styles for new buildings (1).
Traffic management schemes – pedestrianisation, one-way systems (1).
Employ rangers to assist members of the public and to monitor problems eg fires, litter (1).
Maintenance of footpaths, fences and drystone walls (1).
Screening and restoration of quarries (1).
etc
Or any other valid point.

5 marks

Human Environments

Question 2

- (a) Advantages and disadvantages accepted.
Large area of flat land (1) plenty of room for expansion (1).
Access to Southampton Water (1) for importing/exporting oil (1).
Workers nearby (1). Good access by road (1). Houses nearby –
danger of explosions (1). Too close to National Park – visual
pollution (1).

4 marks

- (b) **See example below**
1 mark for scale
1 mark for shading key
1 mark for shading countries correctly



3 marks

- (c) No mark for naming city.
Maximum 1 mark for description only.
Shanty towns are built because people arrive in the city with no
money to rent a house (1). Disease spreads so quickly due to
overcrowding (1) and lack of clean water (1). Lack of electricity
and sanitation because the city council cannot afford to install
it (1). Poverty is widespread as many people cannot find jobs (1).
Or any other valid point.
If EMDC is discussed, maximum of 2 marks.

4 marks

- (d) Accept combination of agree and disagree.
 Agree – 60 hectares of rainforest have been cut down due to new airport (1) resulting in the loss of habitat for plants and animals (1). Shanty towns spoil the look of the area (1). Sea turtles may become extinct (1). Fisherman’s jobs are threatened due to reduction in number of fish (1). Large numbers of tourists result in the building of more hotels (1). New roads cause air and noise pollution (1).
- Disagree – Cancun is in an ELDC so hotels provide jobs for locals (1) who before would have relied on farming/fishing (1). Tourism brings money into the area (1).
 Or any other valid point. **4 marks**
- (e) Answer must include explanation.
 No mark for naming country.
 % of over 65 year olds has increased due to improvements in housing (1) eg less damp in houses (1). Pensions give elderly people a source of income (1). Medication is free (1). Improvements in treating illness (1). Better education (1) resulting in elderly people eating a healthier diet (1) and taking more exercise (1). Falling birth rate affects the structure of the population (1).
 Or any other valid point. **4 marks**
- (f) No mark for naming city. Mark out of 5 if no named city referred to.
 Building a new bridge in the city centre or further downstream (1). If bridge is named (1). Introduction of bus lanes (1). Yellow lines to prevent cars parking which keeps traffic flowing freely (1). Park and ride schemes – park car on edge of city and then travel by bus/train/subway (1). Building a bypass or ring road (1).
 Or any other valid point. **6 marks**

Rural Land Degredation

Question 3

(a) **3:2 or 2:3**

Human Factors

Population growth leads to greater densities of population which concentrates pressure in a smaller area (1) leading to a reduction in vegetation and soil overused due to more intensively farmed land (1).

Livestock numbers are on the increase along with increasing population numbers and results in the vegetation becoming stripped bare (1). With reduced vegetation cover the soil becomes exposed to the effects of the sun, causing it to dry out (1) and the wind causing it to blow away (1). Livestock also compact the soil surface with their hooves (1) leading to reduced infiltration and increased run off which removes the topsoil (1).

Vegetation burning causes reduced surface cover and exposes the soil to the elements (1). It also reduces the soil moisture content and the soil loses its structure (1), making it more likely to be blown away (1).

Water extraction through pumped water can cause salts to build up in the soil (1) and this makes crop production more difficult (1).

Physical factors

Run off causes the topsoil to be washed away during the rainy season (1). Strong hot winds cause the vegetation cover to die (1) which reduces the protection of the soil and reduces moisture content (1).

High temperatures leads to drying up of water holes (1) and combined with low rainfall and high evaporation rates leads to vegetation dying off (1). This results in a weakened soil structure (1), so that when the wind comes the surface or topsoil layer is blown away (1).

Torrential rains batter exposed soil surfaces displacing the surface layer and washing it away (1). The soil which is washed away is the most valuable layer the topsoil (1).

Or any valid point.

5 marks

(b) (i) Road building projects to open up the forest in order to make it more accessible (1). Rivers have been dammed to create reservoirs and HEP stations causing large areas of forest to become flooded (1). Minerals are extracted such as bauxite, gold and iron ore (1). Cattle ranching is the most common type of farming requiring large areas of land (1).

Or any valid point.

3 marks

(ii) **2:2, 1:3, 3:1**

Advantages

Allows poor peasant farmers the opportunity to have a piece of land of their own and takes the pressure off overcrowded settlements elsewhere (1). Timber can be exported providing much needed income (1). Minerals can bring in valuable export income (1). HEP can attract industries which provide many jobs (1).

Disadvantages

Indigenous tribal peoples lose their land and traditional way of life (1). They find it harder to survive on less land (1) and often come into conflict with developers (1), may have died from diseases brought in by the outsiders (1). Rivers become polluted with mercury which is used to separate the minerals from the ores during mining (1) leading to fish becoming contaminated and then dying (1). Tribal peoples end up with mercury poisoning due to eating the fish (1).

Rainfall totals drop and desertification in areas where large sections of forest has been cut down (1).

Or any valid point.

4 marks

(iii) National Parks are set up which prevent mining, cattle ranching and road building (1). In Colombia the government has returned land to local Indian people which had been wrongly taken away from them (1). Developed countries are less likely to fund projects which are very harmful to the rainforest environment (1). Charities buy small areas of rainforest and protect them from development (1). Debt for nature swaps (1).

Or any valid point.

3 marks

River Basin Management

Question 4

- (a) Advantages and disadvantages accepted.
Mountainous area so rainfall will be high (1). Plenty of tributaries to feed reservoir (1). Evaporation rate will be low due to low temperatures associated with mountainous areas (1) underlying rock is granite which is impermeable (1). No settlement in the valley so no relocation costs (1). Narrow steep sided valley allows for a good depth of water (1).
Or any other valid point. **4 marks**
- (b) (i) No mark awarded for naming dam. The multi purpose scheme allows HEP to be generated (1) thus allowing the country to develop its industry (1). Ships will be able to access more cities along the Yangtze (1) thus encouraging the development of trade (1). Flooding will be reduced so less money will be needed for rebuilding of roads/houses (1). The dam may become a tourist attraction thus bringing money into the country (1). **3 marks**
- (ii) Large areas of forest may be lost so plants and animals lose their habitat (1). The reservoir may fill with silt which will no longer be deposited on farmland (1) which may lead to increase in use of chemical fertiliser (1). Increase in salination destroying farmland (1). Increase in coastal erosion (1). Areas of scenic beauty are lost forever (1). Loss of historical/cultural aspects of the landscape (1). **4 marks**
- (c) Syria will perceive the main benefits of the dam as going to Turkey (1) eg increased area of irrigation and HEP (1), even although more of the Euphrates River flows through Syria (1). Syria now receives less water and it is polluted (1) so will have to reduce the size of the area being irrigated (1). Turkey may now import less oil from Syria (1). **4 marks**

European Environmental Inequalities

Question 5

- (a) (i) Countries such as the UK, Belgium, Germany and the Czech Republic produce over 500 metric tonnes/km² (1). Holland, Denmark, Italy and eastern European countries such as Poland and Slovakia produce between 2500 and 5000 tonnes (1). Countries on the western and northern fringes such as Iceland, Norway and Portugal produce low levels – below 2500 tonnes (1). Smaller eastern European states and most countries to the east of the Adriatic Sea also have low levels of emissions (1). **3 marks**
- (ii) Countries such as the UK, Germany and Belgium had industries traditionally based on coal power (1) and still have large numbers of coal fired power stations (1) providing electricity for domestic use and industry (1). Countries such as Poland, the Czech Republic and Slovakia still have coal based heavy iron and steel industries (1) which cause large amounts of sulphur dioxide emissions (1). Countries such as Iceland, Portugal and Norway have much smaller population densities (1) and thus less demand for electricity (1). There is very little heavy industrial development in these countries therefore pollution is much lower (1). Power stations in such areas take other forms such as hydro-electric, geothermal, solar or wind (1) – all of these producing little pollution (1). **4 marks**
- (b) Mark 3:2 2:3
- For full marks a comparison must be made between two distinct areas. If not maximum of 4.
eg Alps/Lake District – in the Alps there are large numbers of tourists/skiers (1) with many purpose built resorts (1). Also many ski-tows/cable cars (1) creating visual pollution (1). Problems with high levels of traffic and related pollution (1). The Lake District is a much smaller area (1) and under National Park control (1) therefore tourist development is limited (1). Because the weather is milder and the mountains are lower there is no ski industry.
Typical coastal areas which may be compared could include Costa del Sol/Moray Firth. **5 marks**

- (c) eg River Rhine – ICPR (International Commission for the Protection of the Rhine) (1) set up by countries bordering the river – the Netherlands, Germany, France and Switzerland (1) – to monitor water quality and fish stocks (1). Improved sewage treatment was introduced (1), companies in each country were forced to build waste purification plants (1), limits were set on dumping dangerous chemicals such as mercury (1), and fines were issued to companies which continued to pollute the river (1). The European Union encourages cleaner production processes by allowing such companies to use ‘eco-friendly’ labels (1). Environmental pressure groups such as Greenpeace and Friends of the Earth have protested against the dumping of toxic waste (1) to bring it to the public’s attention (1).

3 marks

Development and Health

Question 6

- (a) Improved accessibility could lead to greater trade and therefore more income for countries on the road (1). This might lead to more jobs created and greater spending power within the area (1). If more wealth is being generated this will give governments in the area the opportunity to spend more money on health and education (1). The improved road system may lead to investment by MNC's generating more jobs and more modern industries (1). This might lead to increased urbanisation and get people off the land into manufacturing jobs (1). It might result in trade with Europe (1). It might attract tourists to the area and boost income for local economies (1). If wealth is created and spread out more evenly in the area, stability might increase providing more opportunities for improvements to be made in standards of living (1).

Or any valid point.

4 marks

- (b) **Advantages, disadvantages or both can be given.**

Exporting goods generates wealth for a country through export income (1) and creates jobs for people (1) which is of great benefit. However dependence on primary products is risky as the crop may fail meaning nothing to sell (1), the price on the world market may fluctuate and is often low (1) making it difficult for governments to plan spending (1). It might also lead to low wages or job losses for workers sending them into poverty (1).

Or any valid point.

3 marks

(c)

Aids

Aids is reducing the number of young adults in ELDCs significantly leading to a loss of the most economically active sector of the population (1). Schools are short of teachers and so young people cannot be educated (1), hospitals are short of nurses and doctors and so the sick cannot be treated (1). Farms are being abandoned as the owners become too sick or die (1) leading to reduced food production (1) and risk of food shortages (1). Factories are becoming less productive due to workers who are sick not being able to work as efficiently or the fact that there are not enough people to run them (1). All of this means that some countries are now even less developed than they were before and debt piling up (1). Social stigma for the relatives of Aids victims can lead to loss of jobs or social exclusion (1).

Malaria

This can affect people of any age and result in many days lost working for those of working age (1). It can be expensive to treat (1) and people often spend a lot of time and money seeking treatment for themselves or relatives (1). Malaria can be debilitating and so people often lose money if they can't work (1) or fail to bring in the harvest resulting in food shortages for the season (1). In some cases death occurs leading to the loss of an earning family member (1).

Or any other valid point.

5 marks

(d)

Aids

Use of drugs to try and delay the onset of Aids (1), education campaigns advising of the risks of unprotected sex (1), distribution of condoms (1), encourage young people to abstain from sex until marriage (1).

Malaria

Use of insecticide sprays to kill the mosquito (1), anti-malarial drugs (1), draining of swamps and keeping water barrels covered up (1), use of mosquito nets (1).

Or any valid points.

3 marks

Environmental Hazards

Question 7

- (a) These volcanoes are formed as the result of plates colliding (1). The Nazca and the South American plate have collided to cause volcanic and earthquake activity (1). This is caused by convection currents in the mantle moving the crustal plates around (1). When two plates collide one plate sinks beneath the other and melts (1). This molten rock rises to the surface and forces its way through the crust to form a volcano (1) where this happens along a large stretch of plate edge then a ridge of volcanic mountains will form (1). Earthquakes occur when two plates slide past each other (1), they stick due to friction (1), pressure builds up and eventually jerk apart causing shockwaves or vibrations to be released (1). Or any valid point. **4 marks**
- (b) Aid workers would need to provide temporary shelter (tents) for the local people as their homes have collapsed (1). They will need to provide blankets, clothing and fuel in order to cope with the sub zero temperatures (1). As people have lost all their possessions they will need clothing and food (1). Emergency first aid will need to be provided eg blood supplies, bandages, painkillers (1) and medical teams flown in (1). As roads have collapsed people in most need of hospital treatment may have to be air lifted out of the area (1). Or any valid point. **4 marks**
- (c) (i) People in these areas are at risk from the effects of tropical storms as these storms are very powerful and may cause a lot of damage particularly to poorer communities (1). Tropical storms uproot trees (1) disrupt telephone and electricity power lines (1). Severe economic problems can result if plantation crops are wiped out eg Nicaragua and Dominican Republic (1). Tidal surges flood low lying coastal areas (1). Where these are densely populated areas there may be a major loss of life (1). Flooding can block coastal escape and relief roads (1). Flooding can swell rivers and flash floods can cause thousands of deaths (1). Flooding may pollute water supplies (1), increasing the risk of cholera (1). Landslides may occur where heavy rainfall washes away buildings erected on steep unstable slopes (1). Or any valid point. **3 marks**

(ii) Mark out of 3 if no case study mentioned.

Information on how tropical storms operate has improved (1), more information has been spent on improving early warning systems (1) maintaining communications during a hurricane has improved (1), emergency services are better trained in relief work (1) and more buildings have been reinforced (1). Advice is given to people before, during and after a storm (1).

Comment on effectiveness might include – the number of deaths were reduced (1) or it made no difference as the country is poor and people were unable to access warnings on TV and radio (1), education campaigns were ineffective because high illiteracy rates meant posters/leaflets were not understood (1), there is no money to invest in reinforcing buildings so damage to property continues to be high (1).

Or any valid point.

4 marks

[END OF MARKING INSTRUCTIONS]