2009 Geography

Intermediate 1

Finalised Marking Instructions

Geography

Intermediate 1

Physical Environments

Question 1

(a) Upland area A – North West Highlands
Upland area B – Loch Lomond/Trossachs
River C   – River Spey

(Mark 3 = 2, 2 or 1 = 1)   **3 marks**

(b) Limestone Gorge   915637 (9163)
Limestone Pavement   903646 (9064)
Pot Holes   873647 (8764)   **2 marks**

(c) Formed where a river flows over hard and soft rock (1); the soft rock is eroded more quickly (1); the hard rock sticks out into the river course (1); the water wears away the soft rock underneath (1); a plunge pool is formed (1); the rock above becomes unstable and collapses (1).

Full marks awarded to diagram that clearly illustrate/explain formation.   **3 marks**

(d) **(i)** One mark for each Bar correctly drawn.
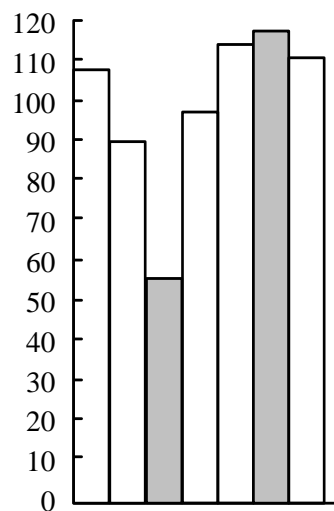
                                                                                                                2 marks

(ii) Answers may include:

Maximum of 1 mark for grid reference.

The area has attractive scenery (1); the area offers opportunities for outdoor pursuits (1), for example caving, hill-walking or pot-holing (1); there are historical visitor attractions (1); for example, old settlement sites (1); Malham Cove (1); Janet's Foss (1); Opportunities for horse-riding (1); Aire Head (1).

Or any other valid point.   **4 marks**

(e) Answers likely to be mainly negative.

Steep slopes make it difficult to cultivate (1); also makes it difficult to use machinery (1); height of land may make it too cold to grow crops (1); many exposed rocks so soil likely to be thin (1); sheep can survive on the steep slopes and high ground (1); rough grazing will suit sheep (1).

Accept any other relevant point. **3 marks**

(f) Answers may include:

Quarries could be filled in and landscaped (1); they could be screened by woodland (1); could be turned into a recreational feature (1) eg rock climbing, water sports etc (1). **3 marks**

Total 20 marks

Question 2

(a) Countries like Australia have large areas of desert unsuitable to live in (1), they have low rainfall making settlement in some parts difficult (1). Some countries have high mountains making it hard to live there (1). Some countries have few natural resources to develop (1). Countries with good communications are more crowded (1) or have industry and jobs (1). Countries like Bangladesh have fertile farmland (1). Credit reference to size of country related to population.

Accept any other relevant point. **3 marks**

(b) **(i)** 1920s average was 2.2 (1) peaked in the 1940s at 2.5 (1). Steady decline since then (1). Year 2000 average at 1.6 (1). Now steady (1). **3 marks**

(ii) Women in EMDCs have children later due to careers (1) and so have less children (1). Contraception is widely available (1). State benefits means less need to rely on children for support (1). Large families are viewed as expensive (1) and money is spent on personal luxuries (1). **3 marks**

(c) Push and Pull factors

Rural area cannot support too many people (1). Drought has caused crop failures (1). Lack of job opportunities in rural area (1). Family already in city (1). Better educational facilities in city (1). Attraction of large cities compared to rural way of life for younger people (1).

Or any other valid point **4 marks**

(d) Congestion charging introduced (1). Bus and taxi lanes to speed up public transport (1). More frequent buses (1). Increased parking meter charges (1). Park and Ride schemes used (1). Bus gates (1). **3 marks**

(e) More pleasant environment (1). Easier access for transport (1). Less pollution than in the city (1). Inner city has less space for expansion (1). Cheaper land (1). **4 marks**

Total 20 marks

Environmental Interactions

Rural Land Degradation

Question 3

(a) Mostly in the southern hemisphere (1); Central America (1); South-East Asia (1); parts of Africa (1); Mexico (1); Brazil (1); Argentina (1); Sudan (1); Nigeria (1); Zaire (1); Indonesia (1). **3 marks**

(b) National Parks have been set up (1); Certain developments eg mining are not allowed (1); landowners must keep a certain amount of their land as forest (1); no more tax benefits to people who farm rainforests areas (1); purchase of rainforest areas by charities to protect them (1); some land returned to local Indian population (1); developed countries less likely to fund projects which involve rainforest destruction (1). **3 marks**

(c) Answers may include:
Answers do not necessarily need 2 factors.

Climate: Drought conditions can result in soil becoming loose and dry (1); this makes it susceptible to wind erosion (1); risk increases if there are few plants to hold the soil in place (1); heavy rain can also result in soil erosion (1).

Credit should also be given for mention/description of rainsplash, sheetwash and gully erosion.

Farming methods: Ploughing up and down slopes (1) creates ready made channels for transporting rainwater downslope (1); monoculture (1); repeated planting of same crop breaks down soil structure (1); easier for wind and rain to carry soil particles away (1); leaving soil unprotected encourages sheet erosion (1); reliance on chemical fertilisers breaks down soil structure (1).

Population density: Farms forced to grow increased yields which the soil cannot support (1); fallow period reduced and soil loses nutrients (1); increased use of marginal land has increased desertification (1); increased population also results in overgrazing (1); results in vegetation being stripped to roots leaving soil exposed (1); compaction by hooves reduces infiltration capacity (1); increase run-off and therefore erosion (1); increased deforestation for fuel and building materials (1); tree roots no longer hold soil in place (1); also means no foliage to intercept rainfall (1); trees no longer reduce wind speed (1); increased demand for cash crops (1).

Or any other valid point **4 marks**

Total 10 marks

River Basin Management

Question 4

(a) All four correct 3 marks. 3 or 2 correct 2 marks. 1 correct 1 mark.
(from left to right on diagram)
Evaporation, condensation, transpiration and percolation/infiltration.   **3 marks**

(b) For example
Site A: More water can be stored (1). Water can be used for irrigation (1). Deep valley so less chance of evaporation (1). Due to lower precipitation there is more need for water storage (1).

Site B: Granite rock better for storing water (1). Rock will also be a solid dam foundation (1). Higher rainfall will mean good water supply (1). Water can be used by industry (1).

Accept negative points about A.
Any valid point for either site.   **4 marks**

(c) **Either**
Economic benefits
Power for industry is produced (1). Farmers can have irrigation water (1). Tourism increases and benefits local economy (1).
Or
Environmental benefits
Wildlife habitats increased (1). Cleaner water for people to drink (1). Flooding risk reduced (1).   **3 marks**

Total 10 marks

European Environmental Inequalities

Question 5

(a)   The worst air quality is in Central and Eastern Europe (1) eg Germany or Poland (1). The best air quality is in the North West (1). Iceland/Scotland/Norway have very good air quality (1).

Or any other valid point.   **3 marks**

(b)   **(i)**   For full marks there should be a clear comparison between two contrasting areas.

eg Mountain areas
Some mountains areas such as Val d'Isere in the French Alps have been developed for skiing – tows and lifts cause visual pollution (2) and skiers cause scarring of the landscape due to erosion (1). There is also traffic congestion due to increased visitor numbers (1).

The NW Highlands of Scotland have fewer environmental problems as they are more difficult to get to (1) and milder conditions mean skiing is less important (1).

eg Coastal areas
The Costa de Sol has more environmental problems than the West coast of Ireland because tourists are attracted to the hot dry climate (1) and can reach the area easily with many cheap flights (1). There is much more resort development (1) which causes sewage pollution (1) and increased traffic congestion (1).

Or any other valid points.   **4 marks**

(ii)   Award one mark for each improvement strategy for ANY area.
eg Turn mountain areas into National Parks (1) which limits development (1)
Improve footpaths (1)
Zoning of specific activities (1)
Fines for dropping litter (1)
European legislation for sewage treatment (1)
Blue Flag awards for clean beaches (1) etc.

Or any other valid points.   **3 marks**

Total 10 marks

Development and Health

Question 6

(a) Physical: Some countries suffer from floods or drought (1) which affects food production (1). This means they have to import more (1) getting into debt (1). Countries such as Brazil have large areas of rainforest (1) which are inaccessible (1). Other areas are mountainous and have little flat land for development (1) etc.
Human: Better education system (1) which means skilled employees (1) greater production levels (1) and more exports/better balance of trade (1). Stable governments allow better economic growth (and vice versa) (1).

Or any other valid point. **4 marks**

(b) Spread by female anopheles mosquito (1) when it bites an infected person and then bites someone else (1).
Physical/human factors in its distribution.
Temperatures above 15°C (1) still water for mosquitoes to lay eggs (1) vegetation and shaded areas (1) swampy ground (1) human blood reservoir (1) padi fields/ irrigation ditches (1) lack of covered sanitation (1) high level of migration (1) lack of money for health care (1) etc.
Particularly affects children due to lack of resistance (1). **3 marks**

(c) eg
Heart Disease: stop smoking (1) take more exercise (1) improve diet (1) better screening of population (1) improved drug treatment and medical care (1) etc.
Malaria – drugs to kill parasite (1) insecticides to kill mosquito (1) use of bed nets to protect people when they sleep (1) drain swamps (1) etc.
AIDS – better health education (1) anti-retroviral drugs (1) avoid sharing needles (1) and/or unprotected sex (1). **3 marks**

Total 10 marks

Environmental Hazards

Question 7

(a)   Marks 1:3, 2:2, 3:1

Buildings destroyed (1); roads blocked by landslides (1); electricity cut off (1); fires break out (1); shock waves can cause destruction by tsunamis (1). Many people killed or injured (1); disease spreads (1); people lose jobs and income (1).

Or any other valid point   **4 marks**

(b)   **(i)**   Formed over warm seas with a surface temperature of at least 27°C (1).
Warm water at least 60m deep (1) and high humidity (1) causes air to rise quickly (1) forming huge cumulo-nimbus clouds (1) and an area of extreme low pressure (1).
The system starts to spin and move due to the rotation of the earth (1).   **3 marks**

(ii)   The path of the hurricane can be predicted (1) by using technology such as satellite or radar (1). Early warnings can be given to people in its path (1). Buildings can be boarded up (1) and people evacuated (1) or moved to underground shelters (1). Food and water can be stockpiled (1).   **3 marks**

Total 10 marks

[END OF MARKING INSTRUCTIONS]