

**MARK SCHEME for the May/June 2011 question paper**  
**for the guidance of teachers**

**0460 GEOGRAPHY**

**0460/13**

Paper 1, maximum raw mark 75

This mark scheme is published as an aid to teachers and candidates, to indicate the requirements of the examination. It shows the basis on which Examiners were instructed to award marks. It does not indicate the details of the discussions that took place at an Examiners' meeting before marking began, which would have considered the acceptability of alternative answers.

Mark schemes must be read in conjunction with the question papers and the report on the examination.

- Cambridge will not enter into discussions or correspondence in connection with these mark schemes.

Cambridge is publishing the mark schemes for the May/June 2011 question papers for most IGCSE, GCE Advanced Level and Advanced Subsidiary Level syllabuses and some Ordinary Level syllabuses.

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### The features of the marking scheme

Each question carries 25 marks. Candidates cannot earn above the maximum marks available within each sub section.

The marking scheme attempts to give guidance about the requirements of each answer and lists a number of responses which will earn marks along with the general principles to be applied when marking each question.

It should be noted that candidates can earn marks if their answers are phrased differently provided they convey the same meaning as those in the mark scheme. **THE CANDIDATES DO NOT NEED TO USE THE SAME WORDING TO EARN MARKS.**

The notation `etc.` at the end of an answer in the mark scheme signifies that there may well be other correct responses or examples that can be given credit. Providing the statement is true, relevant to the question asked and not repetition of a previous point made credit should be given.

A point made within one sub-section which is an answer to the question set in a different sub-section should not be given credit as each sub-section asks different questions which require independent answers.

The mark scheme uses semi colons (;) to separate marks and diagonals to separate alternative answers.

**Levels of response marking** is used for section (c) of each question.

Thus it is the quality of the response which determines which level an answer achieves rather than the quantity of statements contained within it. However once assigned to a level the mark achieved within that level is determined by the number of points made.

Levels 1 and 2 are distinguished by whether statements are simple (level 1) or developed/elaborated (level 2). A candidate can immediately enter L2 by making developed points without making any L1 statements. In order to achieve L3 a candidate must have already reached the top end of L2 – in addition his/her answer should have a clear example (for 6 marks), and if the answer is place specific as well (7 marks).

Where statements are assigned levels by the examiner this should be indicated by the use of L1, L2 and L3 next to the statements. A summary of the overall level and mark awarded should be written at the end of the answer.

#### Summary:

Level 1 (1 to 3 marks):

- 1 simple statement (1 mark)
- 2 simple statements (2 marks)
- 3 simple statements (3 marks)

Level 2 (4 to 6 marks):

- 1 developed statement (4 marks)
- 2 developed statements (5 marks)
- 3 or more developed statements with e.g. (6 marks)

No example/inappropriate example = MAX 5 marks

Level 3 (7 marks)

3 or more developed statements + named example with at least one piece of place specific detail.

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1 (a) (i) 54 per 1000

1 mark

[1]

- (ii) Birth rate = 14–16 per 1000  
 Death rate = 5–6 per 1000  
 Natural population growth rate = 8–11 per 1000

1 mark for identification of correct BR/DR

1 mark for correct answer

2 @ 1 mark

[2]

- (iii) Ideas such as:  
 better treatment of diseases/or examples/medicines/drugs etc.;  
 more/better/improved health care /or examples/hospitals/clinics etc.;  
 more doctors/nurses;  
 vaccination;  
 improved diet/increased food production;  
 enough/better water supply/clean safe drinking water;  
 improved hygiene/sanitation;  
 awareness of/education about e.g. AIDS/hygiene;  
 increased aid from MEDCs; etc.

3 @ 1

[3]

- (iv) Ideas such as :  
 theatre groups/road shows to educate re dangers of unprotected sex;  
 poster campaigns/TV adverts;  
 issuing of condoms/use condoms;  
 legislation against prostitution;  
 free syringe exchange for drug addicts/use clean/new needles;  
 careful screening of blood transfusions/avoid contact with blood;  
 reduce needs for migrant workers/legislation;  
 better health treatment to reduce early deaths from diseases to which AIDS victims are less resistant;  
 cut price of drugs being developed to slow the growth of the AIDS virus/invent a cure/drug;  
 education about dangers/safe sex/signs to look for;  
 regular health checks/screening/testing; etc.

4 @ 1 mark

[4]

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- (b) (i) Negative relationship/correlation/higher number of births per woman lower percentage of girls in secondary education/or vice versa; Reserve 1 mark.  
 e.g. Mali 7 births and 5% of girls in education;  
 China 1.7 births and 60% of girls in secondary education;  
 Canada 1.2 births and 100% of girls in secondary education;

N.B: Candidates can use any countries to illustrate relationship with correct figures.  
 Any anomaly or exception can be accepted.

3 @ 1 mark [3]

- (ii) Ideas such as:  
 can get a job or examples/start a business;  
 so they can earn more money/so they can afford to educate children/feed family/improve standard of living/quality of life (DEV);  
 to get out of poverty/break cycle of poverty;  
 educated women will be better able to care for their families/be aware of better nutrition/healthcare (DEV);  
 improve skills/qualifications;  
 country will become more wealthy/contribute to GDP/higher GDP;  
 reduce spread of AIDS/HIV;  
 snowball effect – more likely to educate their own children;  
 population growth rates are lower when women are educated/as they are more likely to practise family planning(DEV);  
 women will have gender equality/there will be less discrimination;  
 women will have the option to contribute to political affairs/decision making;

5 @ 1 mark or development [5]

(c) Levels marking

Level 1 (1–3 marks)

Statements which identify pull factors in limited detail.  
 (e.g. jobs, good services, food, education, safety etc.)

Level 2 (4–6 marks)

Uses named example

More developed statements which explain reasons for international migration.

(e.g. jobs in formal sector/ where they can work in service sector/factories, greater access to schools/hospitals/clinics, can buy food from shops rather than rely on unproductive farmland etc.)

(NB MAX 5 if no named example)

Level 3 (7 marks)

Uses named example (e.g. Germany).

Comprehensive and accurate statements including some place specific reference.

(e.g. people were employed in rebuilding cities like Dresden after World War 2, good access to schools/hospitals/clinics in large urban area like Cologne, they do not have to produce food as supplies are imported etc.) [7]

[Total: 25]

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2 (a) (i) Greater average number of shops in settlements of more than 2000 people/13 in settlements of more than 2000 but 4 in settlements with less than 500

1 mark [1]

(ii) Low order services such as:  
 newsagent;  
 church;  
 general store;  
 primary school;  
 post office/post box;  
 corner shop;  
 bakery/baker shop;  
 green grocers/grocery shop;  
 mobile library;  
 bus stop/service;  
 doctor/clinic;  
 butcher; etc.

2 @ 1 mark [2]

(ii) Ideas such as:  
 small threshold population;  
 small sphere of influence;  
 located in settlements of all sizes/small settlements;  
 they may sell convenience goods/low cost items;  
 they are likely to be used frequently;  
 people do not travel far to use them; etc.

3 @ 1 mark [3]

(b) (i) Ideas such as:  
 small shop;  
 people who use it will live nearby;  
 the shop will not have much choice of goods/limited range of goods;  
 it will sell low order goods/convenience goods;  
 people will not travel far to buy the goods sold;  
 there are shops selling similar goods in all parts of the urban area; etc.

3 @ 1 mark [3]

(ii) Ideas such as:  
 it is a high order service/specialist;  
 which needs a large threshold population/needs a lot of people to keep it in business;  
 more potential customers live in large urban areas/small settlements don't have enough customers;  
 they have large sphere of influence;  
 which may include other smaller settlements;  
 better access for customers;  
 in a LEDC richer people live there; etc.

4 @ 1 mark [4]

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- (iii) Ideas such as:
- high rise buildings;
  - high order services;
  - high density land use/little open space;
  - specialist shops/services;
  - selling comparison goods;
  - e.g. jeweller/shoe shops/clothes shops etc. (MAX 1 examples of types of shops);
  - well served by public transport;
  - sometimes pedestrianised;
  - main theatres/cinemas/restaurants;
  - shopping malls/shopping centres;
  - offices;
  - easy access/transport hub;
  - high cost of land;
  - lots of traffic congestion/busy roads;
  - government buildings or examples;
  - universities/colleges; etc.

5 @ 1 mark or development

[5]

(c) Levels marking

Level 1 (1–3 marks)

Statements including limited detail on reasons for growth of settlement.  
(e.g. good roads, flat land, water available/close to a river etc.)

Level 2 (4–6 marks)

Uses named example

More developed statements on reasons for growth of settlement.

(e.g. focus of routes/route centre; good roads enabled growth of industry; flat land which was above flood plain; bridging point of river etc.)

(NB MAX 5 if no named example)

Level 3 (7 marks)

Uses named example (e.g. Liverpool).

More developed statements on reasons for growth of named settlement including some place specific reference.

(e.g. Liverpool is a port; located on estuary of Mersey river; deep water anchorage; sheltered anchorage; space for expansion of warehouse facilities; opposite side of Atlantic to USA encouraged trade; hinterland of industrial towns/cotton manufacturing; well developed road/rail communications; impact of Manchester Ship Canal etc.)

[7]

**[Total: 25]**

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**3 (a) (i) Richter Scale**

1 mark [1]

- (ii)** Ideas such as:  
 deaths/killed people;  
 people were homeless/homes damaged/set up tents;  
 monuments were damaged;  
 churches/cathedral/basilica damaged/historic buildings.

2 @ 1 mark [2]

- (iii)** People attempt to predict by recording tremors/when tremors occur an earthquake is predicted by some people/use of seismometers;  
 people predict by measuring radon gas;  
 animal behaviour;  
 look at past records/estimate time scales;  
 but earthquakes are hard/impossible to predict exactly/can predict area but not time.

One mark reserved for evaluative comment

3 @ 1 mark [3]

- (iv)** Ideas such as:  
 plate boundaries are line of weakness;  
 plates slide past/rub against/move towards/converge/collide/move apart/diverge;  
 locked together/stick/friction;  
 build up of pressure;  
 sudden movement/jerk apart/pressure released/break apart/break free; etc.

4 @ 1 mark [4]

- (b) (i)** Ideas such as:  
 hollow concrete blocks will cause less damage/injury if they collapse;  
 shatterproof glass on windows stops people being cut by it/stops it breaking;  
 foundations of stone are resistant to earth movements;  
 springs allow some movement;  
 reinforced concrete roof less likely to collapse;  
 reinforced steel corner pillars supports the house/reduces risk of collapse;

3 @ 1 mark [3]

- (ii)** Ideas such as:  
 they have lived there all their lives/sentimental attachment;  
 close to family/friends;  
 work/education in area;  
 cannot afford to move;  
 pressure of living space/lack of available land;  
 willing to take the risk/don't think it will happen to them;  
 scientists/researchers;  
 preparations e.g. drills/packs/safety of earthquake proof houses; etc.

5 @ 1 mark or development [5]

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**(c) Levels marking**

Level 1 (1–3 marks)

Statements including limited detail describing causes and/or effects of drought or tropical storms.

(e.g. low pressure over sea, people killed, crops destroyed, they have no water to drink, houses damaged, people have to evacuate, roads flooded/blocked etc.)

Level 2 (4–6 marks)

Uses named example.

More developed statements describing causes and/or effects of drought or tropical storms.

(e.g. low pressure formed over warm sea areas, people have to walk long distances to find fresh water; damage to crops leads to lack of food; death through starvation/malnutrition/drowning etc.;

housing destroyed by strong winds; people have to evacuate and live in refugee camps; roads flooded/blocked so aid cannot be sent in etc.)

(NB MAX 5 if no example)

Level 3 (7 marks)

Uses named example (e.g. Cyclones in Bangladesh).

Comprehensive and accurate statements describing causes and effects of drought or tropical storms including some place specific reference.

(e.g. low pressure formed over warm Bay of Bengal; people have to walk long distances to find fresh water as local groundwater sources are flooded by the Ganges; damage to rice crops leads to lack of food; death through starvation/malnutrition/drowning etc.; housing destroyed by strong winds sweeping in from Bay of Bengal; people have to evacuate and live in refugee camps in Dhaka, roads flooded/blocked so aid cannot be sent in etc.) [7]

**[Total: 25]**



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- 4 (a) (i)** Material which it is carrying  
1 mark [1]
- (ii)** X. Suspension  
Y. Saltation  
2 @ 1 mark [2]
- (iii)** Ideas such as:  
more load will be carried;  
heavier materials will be moved/large boulders may be moved;  
greater amount of traction will occur;  
materials usually moved by traction may be moved by saltation;  
more material in suspension; etc.  
3 @ 1 mark [3]
- (iv)** Areas such as:  
inner bend of meander/slip off slope/convex bank of meander;  
lower course/mouth;  
flood plain;  
levees;  
delta etc.  
Reasons as appropriate such as:  
speed of flow reduces;  
load carried is too heavy for river;  
still water;  
flocculation/salt water makes them sink etc.  
2 Marks for area and 2 for reasoning  
No double credit on reasons  
4 @ 1 mark. [4]
- (b) (i)** Features such as:  
vertical/steep drop/falls/cliff;  
long drop/10–15metres high;  
layers of rock/sedimentary rocks/bedding planes/stepped profile;  
plunge pool;  
broken rocks at edge;  
falls are wide/10–15 metres wide;  
white water/fast flowing/powerful;  
undercut/cave behind;  
overhang; etc.  
3 @ 1 mark [3]

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- (ii) Explanation of how a waterfall is formed which may include ideas such as:  
 river flows across band of resistant/hard rock;  
 underlain by softer rock;  
 softer rock is eroded by hydraulic action/hard rock takes longer to erode;  
 undercut/hard rock becomes unsupported;  
 overhang collapses;  
 plunge pool forms/deepens due to pressure of falling water;  
 gorge formation/headward erosion/retreats;  
 faulting/geological fault; etc.

NB Credit points made either on labelled diagrams or in written text

5 @ 1 mark or development

[5]

**(c) Levels marking**

Level 1 (1–3 marks)

Statements including limited detail describing what can be done to reduce flooding.

(e.g. build higher banks, plant trees in drainage basin, build dams/reservoirs along course of river, straighten river etc.)

Level 2 (4–6 marks)

Uses named example.

More developed statements describing what can be done to reduce flooding.

(e.g. build higher banks so the river will have a greater capacity; raise banks especially in areas where river flows at a higher level than flood plain; plant trees so flow will not be so flashy/so less water will get to river as more evapo-transpiration occurs; build dams to regulate flow of water; straighten river so water is removed from drainage basin more quickly etc.)

(NB MAX 5 marks if no named example)

Level 3 (7 marks)

Uses named example (e.g. River Mississippi).

Comprehensive and accurate statements including some place specific reference.

(e.g. built high levees so the river will have a greater capacity; raised banks protecting cities like Memphis where river flows at a higher level than flood plain; planting trees in Tennessee Valley so flow will not be so flashy/so less water will get to river as more evapo-transpiration occurs; much straightening of river/meanders cut off between New Orleans and Memphis etc.)

[7]

**[Total: 25]**

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5 (a) (i) Marathwada

1 mark [1]

(ii) wells;  
rivers/streams;

2 @ 1 mark [2]

(iii) A. wells run dry/less rain fallen than water used/more demand for agriculture reduces supply for people or other uses/not enough/much rainfall;

B. Surface supplies/rivers/lakes will dry out/water cannot be used if it is lost/water is lost;

C. People cannot use river water/river water carries disease/people will use other sources more quickly;

3 @ 1 mark [3]

(iv) Methods such as:  
dam/reservoir building;  
desalination plants;  
more boreholes/wells/underground;  
cloud seeding;  
water treatment/purification;  
water supply infrastructure/pipelines;  
transfer water from wet areas to areas where there is a shortage;  
conserve water/or examples of methods to max 2/rationing;  
teach skills/educate people about how to purify water/how to conserve;  
tanks on roof of houses (to collect water)/water butts;  
import water from other countries; etc.

4 @ 1 mark [4]

(b) (i) Ideas such as:–

water pumped into treatment works/water pumped from river;

water pumped through pipes/by electricity;

chemicals added to water (or examples to MAX 1);

sediment allowed to settle.

3 @ 1 mark [3]

(ii) Positive effects such as:

income from sale of treated water;

employment/ in construction/operating plant(DEV in terms of type of job or in terms of improving quality of life);

clean/safe water available/more water available/water more accessible/so it can be used for drinking/domestic purposes(DEV) ;

reduction in diseases (or examples); (DEV if state water borne diseases)/ death rates lowered (DEV);

hence less money spent on hospital care; etc.

5 @ 1 mark or development [5]

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**(c) Levels marking**

Level 1 (1–3 marks)

Statements including limited detail describing causes and/or effects of water pollution.  
(e.g. sewage; waste/rubbish dumping; kills fish; beaches covered in oil etc.)

Level 2 (4–6 marks)

Uses named example.

More developed statements describing causes and/or effects of water pollution.

(e.g. waste chemicals released from factories; oil spills from tankers; types of species killed/mutations; impacts on aquatic food chain etc.)

(NB MAX 5 if no named example)

Level 3 (7 marks)

Uses named example (e.g. North Sea).

Comprehensive and accurate statements describing causes and effects including some place specific reference.

(e.g. Toxic waste from industries along the Rhine enter the North Sea; fuels are dumped/tanks washed out from cargo vessels/oil tankers, diseased seals are washed up on beaches around the Wash in Eastern England etc.) [7]

**[Total: 25]**

**6 (a) (i)** 12 million

1 mark [1]

**(ii) A.** textiles/machinery

B. electronics/telecommunications equipment/computers

2 at 1 mark [2]

**(iii)** Ideas such as:

increase in GDP per person;  
increase in adult literacy;  
greater access to safe water;  
reduction in infant mortality;  
increase in high tech industry;  
increase in urban population.

3 @ 1 mark [3]

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- (iv) Ideas such as  
 large/increasing market in LEDCs/demand;  
 large workforce;  
 cheap labour supply;  
 skilled/literate/educated workforce;  
 low cost of land;  
 few labour restrictions/limited trades union activity;  
 ease of global transport of components/products by air/sea/accessible location;  
 government subsidies/support/low taxes/grants; etc.

4 @ 1 mark [4]

- (b) (i) Ideas such as:  
 reduction in primary;  
 reduction in secondary;  
 increase in tertiary.

3 @ 1 mark [3]

- (ii) Ideas such as:  
 import of food supplies;  
 loss of agricultural land to urban expansion/industry;  
 greater use of technology in farming;  
 movement to the cities;  
 automation/mechanization of manufacturing/industry/factories;  
 increase in service provision/schools/hospitals;  
 tourist development;  
 increase schools/education/increases literacy/more skilled;  
 more money to spend on services;  
 running out of raw materials e.g. coal/iron ore (DEV);  
 agricultural produce /manufactured goods now imported; etc.

5 @ 1 mark or development [5]

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(c) Levels marking

Level 1 (1–3 marks)

Statements including limited detail explaining location of manufacturing/processing industry (e.g. large workforce; good transport links; cheap land; raw materials; energy supply; water supply etc.)

Level 2 (4–6 marks)

Uses named example

More developed statements explaining location of manufacturing/processing industry (e.g. large workforce with engineering skills; good rail links to raw material supplies; located on coalfield for energy supply; water supply to use in processing etc.)

(NB MAX 5 marks if no named example)

Level 3 (7 marks)

Uses named example (e.g. sugar refining in Baltimore USA)

Comprehensive and accurate statements including some place specific reference.

(e.g. good motorway links to markets in large cities such as New York and Washington; adjacent port facilities for import of sugar cane from Caribbean; government grants due to investment in declining industrial areas; large areas of flat land adjacent to waterside for storage of raw cane; large workforce in urban area which has high unemployment rate due to recent industrial decline etc.) [7]

**[Total: 25]**