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CAMBRIDGE INTERNATIONAL EXAMINATIONS

International General Certificate of Secondary Education

MARK SCHEME for the October/November 2012 series

0460 GEOGRAPHY

0460/12 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 should be read in conjunction with the question paper and the Principal Examiner Report for Teachers.

Cambridge will not enter into discussions about these mark schemes.

Cambridge is publishing the mark schemes for the October/November 2012 series for most IGCSE, GCE Advanced Level and Advanced Subsidiary Level components and some Ordinary Level components.

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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 that determines which level an answer is achieved 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 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. Ticks should **not** be used on answers that are marked using levels of response marking.

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 example (6 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) Credit answers which talk about age/gender/ethnic groups as long as the answer includes a reference to the idea of proportion or percentage.

1 mark [1]

(ii) Definition of terms such as:

Dependent population – people who depend on other people to look after/care for/support them/do not work or earn money/are unemployed (1).

Economically active – people who are earning/working (1)

2 @ 1 mark [2]

(iii) B
C
A

3 @ 1 mark [3]

(iv) Ideas such as:

Greater proportion of/more young dependents in A/smaller proportion of/less young dependents in B;
37–38% of population of A compared with 22–23% of B;

Greater proportion of /more old dependents in B/smaller proportion of/less old dependents in A;
30–31% of population of B compared with 9–10% of A;

More dependents overall in B/less dependents overall in A;
52– 54% of the population are dependent in B with 46–48% in A;

The gender of old dependents is more balanced in A than B;
Country A (Females 5–6% Males 4–5%) and Country B (Females 19–20% and Males 11–12%)

(NB: Credit 1 mark for a statement such as “Country A has more young than old but B has more old than young”)

Statistics need to be for the total number of dependents in each case. Need to compare A and B not old and young dependents for one pyramid on its own.

4 @ 1 mark [4]

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(b) (i) Ideas such as:
Malaysia's percentage higher/more than that of Indonesia in 1990;
Indonesia's percentage higher/more than that of Malaysia in 2010;
1990 Malaysia was 4% and Indonesia was 3%/Malaysia is higher by 1% or vice versa;
2010 Malaysia was 5% and Indonesia was 6%/Indonesia is higher by 1% or vice versa

3 @ 1 mark [3]

(ii) *Reasons such as:*
longer life expectancy/lower death rate;
better treatment of diseases/reduction of disease or examples/medicines available;
improved/better health care facilities/medical care/clinics/doctors/hospitals;
investment in care homes/services for elderly/practical help for elderly or eg;
lower birth rates/smaller families or reason for;
young people moving away;
people have a more healthy lifestyle;
education/awareness about a healthy lifestyle/diet/exercise;
improved access to water supply;
improved sanitation/hygiene;
improved diet/food supply/less famine;
pensions available/taxation used for elderly/government spending on elderly etc

(NB: Allow maximum of one development mark on each line of mark scheme (Dev))

5 @ 1 mark or development [5]

(c) Levels marking

Level 1 (1–3 marks)
Statements including limited detail describing problems caused by an ageing population.

Level 2 (4–6 marks)
Uses named example
More developed statements describing problems caused by an ageing population.

Level 3 (7 marks)
Uses named example
Comprehensive and accurate statements describing the problems caused by an ageing population, including some place specific reference.

Candidates are likely to refer to issues such as:
increasing percentage of elderly dependents;
strain on working population;
higher taxation;
need for more money to be spent on care of elderly;
lack of workforce;
harder to defend country;
under use of services for young;
people work longer so less jobs for economically active etc

Place specific detail may include names of places within the country and appropriate statistics.

[Total: 25]

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2 (a) (i) 24 – 25 (accept answers within this range)

1 mark [1]

(ii) Ideas such as:
lower percentage of urban population in richest countries;
lower percentage of urban population in rich countries;
higher percentage of urban population in poor countries;
higher percentage of urban population in poorest countries;
MAX 1 for correct pair of statistics however phrased.

	1950	2005
Richest	46–48%	23–25%
Rich	15–17%	12–14%
Poor	23–25%	38–40%
Poorest	12–14%	22–24%

2 @ 1 mark [2]

(iii) Pulls such as:
work opportunities/better pay/more jobs;
better provision of doctors/hospitals/health care;
better chance of education for children;
more food supplies/shops to buy food;
bright lights/entertainment or examples;
better water supply/sanitation/electricity;
better transport/communications;
to follow friends and family etc

(NB**:** Focus is on pull factors/ need focus on the city)

3 @ 1 mark [3]

(iv) Ideas such as:
deforestation/loss of natural vegetation;
loss of habitats;
threats to species/death of animals/disturbance to animals/extinction;
disruption of ecosystems/food chains;
pollution of water/rivers/groundwater;
atmospheric pollution or named gases/acid rain;
increased risk of flooding etc;

4 @ 1 mark [4]

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(b) (i) Ideas such as:
reduction in housing quality/good quality housing in inner city but squatter settlements in urban fringe;
reduction in supply of amenities/electricity/water supply/sewerage or statistics (max 2);
increase in building density

(NB: max 2 on points relating to amenities/electricity/water supply/ sewerage. Accept information quoted from the table. Assume answer is reading from X to Y unless opposite is clearly stated. Ignore references to outer suburbs.)

3 @ 1 mark [3]

(ii) Ideas such as:
many people are unable to obtain jobs;
work for low pay/they are very poor;
they cannot afford to buy housing/pay rent/it is a cheaper alternative;
many work in informal sector;
migrants are unable to arrange regular payments;
inadequate investment in housing stock/authorities cannot provide enough housing;
newly arrived migrants build their own homes wherever space is available;
newly arrived migrants stay with family/friends already living in squatter settlements;
sense of security;
near to place of work etc;

5 @ 1 mark or development [5]

(c) Levels marking

Level 1 (1–3 marks)
Statements including limited detail on methods used to improve quality of life in squatter settlements.

Level 2 (4–6 marks)
Uses named example
More developed statements on methods used to improve quality of life in squatter settlements.

Level 3 (7 marks)
Uses named example
Comprehensive and accurate statements on methods used to improve quality of life in squatter settlements, including some place specific reference.

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Candidates are likely to refer to issues such as:
Improvement of water supply and sanitation;
Infrastructural development;
Building of low cost housing;
Provision of education facilities and health facilities;
Improvement of transport links;
Self help schemes;
Charitable initiatives working with street children etc

Place specific detail may include names of places within the urban area (or appropriate regional terms), specific schemes or appropriate statistics. [7]

[Total: 25]

3 (a) (i) One that is currently erupting or has recently erupted/able to erupt/can still erupt or produce lava/can erupt at any time

1 mark [1]

(ii) Ideas such as:
Conical shape/cone;
Crater;
Steep sides at the top;
Gently sloping at the base;
Mainly bare rock/no vegetation/not much vegetation;
Small rocks/loose rocks/dark coloured rocks etc

2 @ 1 mark [2]

(iii) Idea such as:
on or close to plate boundaries; (1 mark reserve);
near hot spots;

2 marks max are available for any locational detail such as: two named plates at a boundary e.g. Nazca and South American plate (two marks can be given for examples of two different plate boundaries);around the Pacific Ocean/Pacific Ring of Fire; down the centre of the Atlantic Ocean/Mid Atlantic Ridge;

3 @ 1 mark [3]

(b) (i) Ideas such as:
attracted tourists/there were more tourists;
work for people or examples of activities which create work;
money/income into the country/more business/multiplier effect/foreign currency;
increased awareness of Iceland/its attractions

3 @ 1 mark [3]

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(ii) Ideas such as:
Fertile soils/high yields of crops;
Geothermal power;
Mining/quarrying of volcanic rocks or appropriate example;
Beautiful scenery;
Health benefits e.g. hot springs/water with minerals etc

4 @ 1 mark [4]

(iii) Ideas such as:
death/injuries;
ash/fumes make it difficult to breathe/breathing problems;
destruction of property/houses/homes/buildings/cities or towns destroyed;
high cost of rebuilding;
need to evacuate;
loss of crops/loss of livestock/destroys farmland/destruction of food supplies;
disruption of road/rail communications;
disruption/cancellation of flights/aircraft cannot fly through ash;
work place destroyed/people out of work;
contamination of water supply;
visibility reduced from lack of sunlight or ash cloud etc

5 @ 1 mark or development [5]

(c) Levels marking (can award levels on diagram for annotation regarding causes but do not double credit diagram and text)

Level 1 (1–3 marks)
Statements including limited detail explaining cause of volcanic eruption.

level 2 (4–6 marks)
Uses named example
More developed statements explaining causes of volcanic eruption.

(NB: max 5 if no named example or an inappropriate example. Example needs to be a named volcano. An inappropriate example would be a country or plate boundary)

Level 3 (7 marks)
Uses named example.
Comprehensive and accurate statements including some place specific reference.

Candidates are likely to refer to:
plate boundaries/movement;
lines of weakness
subduction;
heating;
pressure etc;

Any reference to being caused by an earthquake is a L1 point only.

Place specific detail may include names of plates and appropriate locational details. [7]

[Total: 25]

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4 (a) (i) Brazil….Indonesia…Mexico….Burma

1 mark [1]

(ii) Brazil
Dem. Rep. of Congo (accept DRC or Congo)

2 @ 1 mark [2]

(iii) Reasons such as:
Ranching;
Commercial agriculture/example;
Mining/quarrying;
Timber/logging/example of a suitable use of rainforest wood e.g. furniture or species/type e.g. Teak/hardwood;
Manufacturing or suitable example e.g. paper making;
Road construction;
Settlement/housing/towns;
HEP schemes/dams etc

3 @ 1 mark [3]

(b) (i) Ideas such as:
Trees chopped down/burned/sprayed with chemicals;
Animals killed by falling trees/burning/chemicals;
Animals exposed to predators/more exposed to hunting;
Loss of habitat;
Loss of food supply for animals/disruption of food chain;
Loss of nutrients for regrowth;
Loss of pollinators for plants etc

3 @ 1 mark [3]

(ii) Ideas such as:
soil is exposed by removal of trees/the trees protect the soil;
Roots of plants no longer hold the soil in place;
Less interception/fewer trees to take up water;
Less humus/organic matter to bind the soil;
Surface becomes compacted by heavy rain/bulldozers;
Less infiltration;
Large amounts of surface run off remove soil;
More exposed to the wind erosion etc

4 @ 1 mark [4]

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(iii) Ideas such as:
selective logging/log one species/size rather than clear cutting;
clear cutting results in destruction of all vegetation;
helilogging;
collect/gather fruit/nuts;
rubber tapping;
tribal reserves;
conservation areas/ban activities such as logging in certain areas;
ecotourism;
restricting logging/quotas;
afforestation/replanting trees;
agroforestry;
small scale hunting or hunting by indigenous groups;
shifting cultivation/slash and burn etc

5 @ 1 mark for development [5]

(c) Levels marking

Level 1 (1–3 marks)
Statements including limited detail describing and/or explaining the main features of tropical rainforest climate.

Level 2 (4–6 marks)
Uses named example
More developed statements describing and/or explaining the main features of tropical rainforest climate.

(NB: max 5 if no named example or inappropriate example. Accept names of countries only where the whole country is rainforest – for example, Borneo)

Level 3 (7 marks)
Uses named example
Comprehensive and accurate statements describing and explaining the main features of tropical rainforest climates, including some place specific reference.

An answer at L3 must have description and explanation.

Candidates are likely to refer to:
Temperatures;
Evaporation;
Condensation;
Rainfall;
Cumulus clouds;
Overhead sun etc

Place specific detail may include names of places, locational information and appropriate statistics.

NB: Statistics on their own would be L1. However, a description plus statistics to support would be L2. [7]

[Total: 25]

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5 (a) (i) Produce (crops/animals) to sell/to make a profit/as a business/to make money/for the market

1 mark [1]

(ii) Crops: wheat/barley
Animal product: Wool/lambs/fleeces/sheep

2 @ 1 mark [2]

(iii) Natural inputs such as:
precipitation/rainfall/water;
temperature/heat;
sunshine/sunlight;
soil;
seeds;
grass/hay/roots;
manure/natural fertilizer;
land/flat relief etc

3 @ 1 mark [3]

(iv) use of fertilizers/manure;
irrigation;
reclamation of marshland/wetland;
removal of hedgerows;
pesticides/insecticides/herbicides;
terracing;
GM crops/HYVs or examples;
Use of greenhouses;
Hydroponics;
Aeroponics;
Selective breeding;
Mechanisation etc

4 @ 1 mark [4]

(b) (i) Features such as:
large scale of production/large area of land;
plantation/growth of one crop/monoculture;
growing of fruit/bananas;
divided into plots/divided with walls/planned;
terraced hillside;
arable farming;
commercial etc

3 @ 1 mark [3]

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(ii) Ideas such as:
High temperatures;
Lots of sunshine/little cloud cover;
No frost;
Sufficient water/rainfall;
Water for irrigation;
Fertile soils;
Gently sloping land;
Large amounts of land/lots of space;
Capital/grants available;
Good communications;
Close to markets;
Workforce nearby;
High prices of chosen farm produce etc

5 @ 1 mark or development [5]

(c) Levels marking

Level 1 (1–3 marks)
Statements including limited detail explaining why many farmers are subsistence farmers.

Level 2 (4–6 marks)
Uses named example
More developed statements explaining why many farmers are subsistence farmers.

(NB: max 5 marks if no named example or inappropriate example such as name of country or farm or name of area of commercial farming)

Level 3 (7 marks)
Uses named example
Comprehensive and accurate statements including correct reference to a named area.

Candidates are likely to refer to issues such as:
Poverty;
Lack of land;
Lack of markets;
Technology;
Tradition;
Lack of education and skills etc

Place specific detail may include names of places, locational information and appropriate statistics. [7]

[Total: 25]

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6 (a) (i) 250–280 metres.

1 mark [1]

(ii) Desalination;
boreholes/pump from underground rock;
rivers

2 @ 1 mark [2]

(iii) Agriculture: Watering of crops/irrigation/for animals to drink;
Domestic: washing/cooking/drinking/cleaning floors etc;
Industrial: for manufacturing processes/cooling/ to clean machines/generate electricity/HEP/as a power source etc;

NB: 1 mark per line

3 @ 1 mark [3]

(iv) Ideas such as:
disposal of waste/effluent from factories/industry/industrial waste;
chemicals/pesticides from farms;
fertilizers/slurry/animal waste washed from land/through soils;
sewage;
litter/people throw things into the river;
oil/fuels/spillages from boats;
run off of chemicals/toxins from mines/quarries;
acid rain;
remains of cremation ceremonies;
washing themselves/clothes in the river etc

4 @ 1 mark [4]

(b) (i) Ideas such as:
Large/wide/big area of land/valley to flood/area that will store large amounts of water;
Deep valley/basin/area with high sides;
Not much settlement will be flooded/few people live there;
Easy to build dam across valley;
River/tributary streams will supply water;
High rainfall (on hills);
Potential snow melt;
Impermeable rocks;
Firm foundations for dam etc

3 @ 1 mark (3)

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(ii) Candidates should give reasons why people will be in favour and against the scheme. Credit up to 4 maximum for comments in favour/comments against

Expect comments in favour relating to issues such as:
Generation of electricity;
Attracts industrial development;
Provision of water supplies for homes/irrigation etc;
Creation of employment;
Potential for development of tourism/leisure facilities;
Fish farming;
Reduce risk of/control flooding etc

Expect comments against relating to issues such as:
Flooding of farmland/loss of farmland;
Loss of income/employment for farmers;
Loss of natural river/valley;
Loss of species;
Destruction of habitats
Loss of recreational area;
Visual impact;
Disruption of communications/transport;
Displacement of people/loss of homes/relocation;
Hazard from/threat of dam breaking;
Money could be used for other purposes;
Noise/dust from construction etc

5 @ 1 mark or development [5]

(c) Levels marking

Level 1 (1–3 marks)
Statements including limited detail which explain why there are food shortages.

Level 2 (4–6 marks)
Uses named example
More developed statements which explain why there are food shortages.

(NB: max 5 if no named example or inappropriate example. Accept a large area such as the Sahel or a country (MEDC or LEDC) or an area within a country)

Level 3 (7 marks)
Uses named example
Comprehensive and accurate statements, explaining why there are food shortages with some place specific reference.

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Candidates are likely to refer to causes such as:
Drought;
Flooding;
Hurricanes/cyclones/typhoons;
Poor farming practices;
Exhaustion of soils;
Soil erosion;
Wars/conflict;
Lack of investment/poverty;
Lack of agricultural technology
High population growth rates;
Unemployment;
Recession

Place specific detail may include names of places, locational information and appropriate statistics. [7]

[Total: 25]

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