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CAMBRIDGE INTERNATIONAL EXAMINATIONS

Cambridge International General Certificate of Secondary Education

MARK SCHEME for the October/November 2014 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.

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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, this should be clearly identified in the answer (7 marks). Highlight place-specific detail.

Where statements are assigned levels by the examiner this should be indicated by the use of L1 and L2 next to the statements. Ticks should **not** be used on answers that are marked using levels of response marking. L1 annotation should be removed once a L2 is awarded for an answer. L3 annotation is not used. There is no need for a summary level at the end of a response.

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)

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) High density people are more closely packed together or in a low densely populated area people are less closely packed together or;
More people per square kilometre or less people per square kilometre;
A lot of people live in an area and few people live in an area.

N.B.: Needs to compare. Not a list of factors from the table.

1 mark [1]

(ii) The better the access, the higher the population (density)/in areas of good access, there are more people;
The higher/steeper the relief, the lower the population (density).

Accept vice versa answers.

N.B.: No need to compare. Can use words and phrases from the table as long as the relationship is clear – for example, remote and difficult to get to areas have a low population density.

2 @ 1 mark [2]

(iii) Ideas such as:
People prefer to live or there is a higher population density in temperate climates or areas that are warm/not too hot/not too cold/medium amount of rainfall;
Explanation – for example, it is easier to grow crops;
People do not want to live or there is a lower population density in areas of extreme climate/harsh climate/arid areas/(very) cold areas/icy areas/areas that are too wet etc.;
Explanation – for example, there is a lack of water supply for drinking.

N.B.: No double credit on reasons for opposites.

3 @ 1 mark [3]

(iv) Ideas such as:
Employment/to make money/can get jobs/industry needs employees;
Factories/manufacturing;
Mines/quarries;
Farms/in agriculture/in food production;
Fishing;
Forestry;
Tourism;
Inward migration/people move to the area/people want to save travel costs/to avoid commuting/it attracts people;
Developed infrastructure/electricity/water supply;
Transport networks develops/communications/ roads/railways/accessible;
River provides water supply or transport or fuel etc.

4 @ 1 mark [4]

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(b) (i) Ideas such as:
Fewer young dependants (in 2020)/ more young dependants in 2005;
Fewer economically active (in 2020)/ more economically active in 2005;
More old dependants (in 2020)/ fewer old dependants in 2005;

3 @ 1 mark [3]

(ii) In the 15 years the bigger/smaller bars will move up the pyramid;
Small(er) family size/low(er) birth rates/people have few(er) children;
Expense of having children/high costs of children;
Couples prefer independence/careers/spend longer in education;
Later marriages/people have children later;
Desire for material possessions;
People live longer/long(er) life expectancy/low(er) death rates;
Better medication/improved medical care;
Care for the elderly/more care homes;
Pensions/financial support for the elderly;
Early retirement;
Healthy lifestyles/improved diet/exercise etc.

N.B.: No need to explicitly link explanation to the group of people. This question relates to Japan and is MEDC not LEDC context.

5 @ 1 mark or development [5]

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(c) Levels marking

Level 1 (1–3 marks)
Statements including limited detail which describe the problems caused by overpopulation.

Level 2 (4–6 marks)
Uses named example.

More developed statements which describe the problems caused by overpopulation.

(N.B. Max 5 if no named example or inappropriate example)

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

Content Guide:
Answers are likely to refer to:
Food supply,
Poverty,
Employment,
Housing,
Pressure on service provision,
Employment,
Lack of resources,
Crime,
Traffic Congestion;
Specified pollution;
Deforestation;
Habitat loss;
Desertification;
Disease

Place-specific reference is likely to consist of:
Named parts of the chosen country/locational detail, population data etc.

N.B.: Development is of the problem not the cause. People or environment points are valid. Accept problems at any scale including global warming. Impacts of one child policy = IR. [7]

[Total: 25]

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2 (a) (i) All letters in correct boxes. B, C, D from bottom to top.

1 mark [1]

(ii) Ideas such as:
Tall buildings/several storeys/skyscrapers;
High order services/specialised stores/chain stores;
Shops/shopping malls;
Restaurants/cafe;
Lots of pedestrians/lots of people;
Pedestrian zones;
Offices.

2 @ 1 mark [2]

(iii) Ideas such as:
All roads converge on CBD;
Lots of junctions/roundabouts/lights;
People work in the CBD/there are offices/commuting;
People shop in CBD;
Start/finish at peak times/rush hour;
High car ownership/lots of people own cars/lots of people own vehicles;
Inadequate road network/narrow roads/not enough roads;
Insufficient public transport/expensive public transport;
Lots of tourist attractions/lots of tourists go there;
Delivery lorries;
Temporary disruption to traffic e.g. road works/broken traffic lights/accidents;
School run.

3 @ 1 mark [3]

(iv) Ideas such as:
Ring roads;
By-passes;
Road widening;
Build/improve public transport;
Park and Ride;
Build metro/underground/tram/train/subway;
More regular buses;
Build schools/businesses in other parts of the city;
Better parking facilities/off road parking/build more car parks;
Number plate scheme;
Install traffic lights/more traffic police/robots/roundabouts;
One way systems;
Cycle/bus lanes;
Priority lanes/car sharing;
Encourage use of public transport **by** lowering fares/advertising/provide bikes to hire;
Encourage flexible working hours;
Flyover;
Congestion charge.

4 @ 1 mark [4]

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(b) (i) It has increased/overall increase/increase over the time period;
From 26% (1910) to 77/78% (2000)/increased by 51/52%/tripled;
Any trend/change from <u>within</u> the time period e.g. most rapid
Increase from 1930 to 1940 (**N.B.:** not just "increase" alone or statistics alone here.)

<u>Examples:</u>
1900 – 1930 – steady increase
1930 – 1940 – rapid increase
1940 – 1950 – slow increase
1950 – 1990 – rapid increase
1960 – 1970 – rapid increase
1990 – 2000 – slow increase

N.B.: In 'increase' applies to inner city; suburbs or part of the time period on the first line, do not credit.

3 @ 1 mark [3]

(ii) Ideas such as:
More room in suburbs/more land available in suburbs;
People wanting larger houses;
Garden space;
Preference to live in quieter areas/less noisy areas;
Prefer to live in areas with less atmospheric pollution;
Prefer to live in area with less traffic congestion;
Lower crime rates/safer;
More countryside/closer to countryside;
Development of transport facilities/people (can afford to) commute;
Cheaper land in suburbs;
Redevelopment of inner city areas.

Accept vice versa.

5 @ 1 mark or development [5]

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(c) Levels marking

Level 1 (1–3 marks)
Statements including limited detail which describe the impacts of urban sprawl on the natural environment.

Level 2 (4–6 marks)
Uses named example.

More developed statements which describe the impacts of urban sprawl on the natural environment.

(N.B. Max 5 if no named or inappropriate example)

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

Content Guide:
Answers are likely to refer to;
Loss of vegetation,
Loss of habitats,
Extinction of species,
Water pollution,
Air pollution etc.

Place-specific reference is likely to consist of:
Named parts of the city/locational detail,
Specific reference to species etc.

N.B.: Impacts can be at any scale. The focus is on the natural environment. Development should be of the impact and not the cause. Do not accept visual pollution ideas. Litter is ^ unless developed for impact upon the environment. Name of country does not count for place-specific – need more detail. See front notes section. [7]

[Total: 25]

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3 (a) (i) 120 – 130 metres – accept any figure within range given.

1 mark [1]

(ii) Entrance = limestone – mark first in list
Back = chalk – mark first in list

2 @ 1 mark [2]

(iii) Ideas such as;
Limestone eroded/limestone eroded by named process of erosion;
Opens up line of weakness/fault in limestone/cave develops;
Clay/soft/non-resistant rock eroded (to form cove/bay).

N.B.: Must name type of rock on first line of mark scheme.

3 @ 1 mark [3]

(iv) Ideas such as:
Areas of beautiful scenery/good views/enjoy the scenery;
Use by tourists/for leisure activities or example/income from tourism;
Hiking/coastal paths;
Fishing industry;
Development of harbours/ports;
People live there/residential/retirement.

4 @ 1 mark [4]

(b) (i) Ideas such as;
Bare rock/rocky/resistant/hard;
Tall/great height;
Narrow/narrower at base/wider at top/notch at bottom;
Surrounded by sea/separate from main coastline;
Layers of rock/sedimentary.

3 @ 1 mark [3]

(ii) Ideas such as:
Erosion or named process or description of process; (Max 1)
Line of weakness/fault opened up;
Cave formed;
Due to erosion of back to back caves/cave erodes through headland;
Natural arch developed;
Weathering/further erosion/cannot hold weight;
Collapse of arch;
Stack remains isolated from cliff etc.

N.B.: Credit appropriate points on the diagram but do not double credit.

5 @ 1 mark or development [5]

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(c) Levels marking

Level 1 (1–3 marks)
Statements including limited detail explaining the conditions required for the formation of coral reef.

Level 2 (4–6 marks)
Uses named example.
More developed statements explaining the conditions required for the formation of coral reef.

(N.B. Max 5 marks if no named or inappropriate example)

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

Content Guide:
Answers are likely to refer to;
Warm Temperatures (17–33 degrees),
Oxygen,
Depth of water (not more than 60 metres deep),
Sunlight,
Food supply/Plankton,
Sediment,
Salinity (30–38 parts per thousand),
Currents,
Calm water

Place-specific reference is likely to consist of:
Locational details or named areas close to reef,
Specific reference to species etc.

N.B.: Statistics alone do not count for place-specific. Development of a point can be through the use of appropriate statistics or explanation for L2. Name of country is not enough for place-specific. Example can be name of reef/area/country. Statistics on their own = L1. [7]

[Total: 25]

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4 (a) (i) Wisconsin/Minnesota/Iowa/Missouri/Kentucky/Tennessee/Illinois/Kansas/Nebraska

2 needed for 1 mark [1]

(ii) It is a long way from the source/lower course;
Many tributaries have joined together/just after a tributary/near a confluence/there are many tributaries;
It is close to the river/on the flood plain/on flat land next to river;
Large drainage basin/large catchment area.

2 @ 1 mark [2]

(iii) Dams;
Levees made higher;
River straightening.

3 @ 1 mark [3]

(iv) Building settlements on a flood plain puts more people at risk;
Removal of vegetation/no roots to encourage throughflow;
Reduces interception;
More surface run off/less infiltration/less base flow;
Silting of river bed;
Large areas of concrete/impermeable surfaces;
Artificial drains;
Reduce lag time/water enters river more quickly;
Loss of natural washlands.

4 @ 1 mark [4]

(b) (i) Ideas such as:
Overhang;
White water/fast flowing/rapids;
Vertical drop/steep drop;
Plunge pool/pool of deep water at base;
There are two distinct steep sections;
Bare rock/resistant rock/rocky/hard rock.

3 @ 1 mark [3]

(ii) Ideas such as:
Retreat of waterfall (upstream);
Soft rock underneath hard rock;
Soft rock worn away;
Hydraulic action/splashback/abrasion;
Hard form forms overhang/hard rock is undercut;
Hard rock unsupported/collapse of overhang;
Gorge forms.

5 @ 1 mark or development [5]

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(c) Levels marking

Level 1 (1–3 marks)
Statements including limited detail describing the process of exfoliation or carbonation.

Level 2 (4–6 marks)
More developed statements describing and explaining the process of exfoliation or carbonation.

Level 3 (7 marks)
Comprehensive and accurate statements, describing and explaining the process of exfoliation or carbonation.

N.B.: Comprehensive coverage requires all stages of the process

Level 2 Ideas Exfoliation:
- Hot in the day/heating so rock expands
- Cold at night/cooling so rock contracts
- Stress in rocks causes the outer layers to peel
- For L3 we are looking for the above developed statements **with the idea** of repetition of process over long period of time.

Level 2 Ideas Carbonation:
- Rainwater reacts with/absorbs carbon dioxide to form a weak carbonic acid
- Limestone is made of calcium carbonate which is soluble
- Rainwater lands on limestone and dissolves it to form a stronger carbonic acid or calcium bicarbonate
- For L3 we are looking for the above developed statements **with the idea** of movement through joints and bedding planes speeding up the process.

N.B.: Do not credit freeze thaw or any other weathering process. Highlight L3 statement when you have 3 × L2 statements. [7]

[Total: 25]

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5 (a) (i) People who go on holiday/spend leisure time/sightsee from another country

N.B.: Tourist **and** international must be defined.

1 mark [1]

(ii) Higher percentage from Europe/lower from Asia;
60% (Europe) compared with 10% (Asia)/50% more from Europe than Asia

N.B.: The use of the word 'only' gives interpretation of the statistics. For example: 60% of Kenya's tourists come from Europe where as only 10% come from Asia = 2 marks.

2 @ 1 mark [2]

(iii) Distance/there are fewer tourists from further away;
Level of development/more tourists from richer countries;
Transport links/ease of access/cost of transport direct flights;
Similar opportunities/cultures/climate nearer home or it is very different from home;
Ease of obtaining visa.

N.B.: Accept generic points or examples.

3 @ 1 mark [3]

(iv) Ideas such as:
Greater affluence;
Development of transportation/accessibility;
More advertising/greater awareness/internet/online booking;
Package holidays;
Investment/increase in tourism facilities/attractions/hotels;
Paid holidays from work;
Longer holidays/people retire earlier;
Cheaper air travel/more airports/more air routes/more direct flights;
More travel agencies;
More affordable/decreasing relative costs;
People want to experience new cultures/people becoming more adventurous/more gap years;
Countries opening up their borders such as China and Russia;
Development of infrastructure or examples.

4 @ 1 mark [4]

(b) (i) Beach holidays/activities or example of beach activity;
(Look at) nature/(see) wildlife/safari/ecotourism or description of; exploring National Parks;
Mountain holidays/climbing/hiking/walking;
Activities on coral reefs/diving/boat trips;
City break/sightseeing in the city;
Scenery; sightseeing in the Rift Valley.

3 @ 1 mark [3]

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(ii) Ideas such as:

Ensures preservation of land or wildlife/protects natural environment/ecofriendly/protects from poaching;
Protects habitats;
Game reserves and National Parks will still be there for future generations;
Creates employment or income for local people;
Such as people to look after reserves;
So indigenous groups do not have to migrate to cities;
Money earned can be invested in more tourist facilities;
Cultures/traditions are retained;
So tribal groups still exist in the future etc.

5 @ 1 mark or development [5]

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(c) Levels marking

Level 1 (1–3 marks)
Statements including limited detail which describe the benefits **or** problems of tourism for local people.

Level 2 (4–6 marks)
Uses named example.

More developed statements which describe the benefits **or** problems of tourism for local people.

(N.B. Max 5 if no named or inappropriate example)

Level 3 (7 marks)
Uses named example.
Comprehensive and accurate statements which describe **both** benefits and problems of tourism for local people, including some place-specific reference. Benefits and problems do not all need to be at L2.

Content Guide:
Answers are likely to refer to;
Employment,
Multiplier effect,
Improvement of infrastructure,
Increased market for local products,
Seasonal work,
Low pay,
Loss of farmland,
Impact on culture/culture clashes etc.

Place-specific reference is likely to consist of:
Locational details;
Details of specific resorts or attractions etc.

N.B.: The development is of the impact not cause. Focus on people. Not environment unless it has a people link. Not a country unless very small or whole country is affected by tourism.

[7]

[TOTAL: 25]

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6 (a) (i) 12/13

1 mark [1]

(ii) China has more primary;
China has more secondary;
China has less tertiary;
China has a more balanced employment structure.

N.B.: Must compare. Accept vice versa. No statistics without interpretation.

2 @ 1 mark [2]

(iii) Primary in rural area = agriculture/fishing/forestry/mining/quarrying;
High technology = pharmaceuticals/computer software/electronics/making computers or cell phones/research and development/computer repair;
Service industry in CBD = banking/insurance/leisure/tourism/shops/hospitals/ entertainment/education etc.

N.B.: Accept the job or the organisation or name of company.

3 @ 1 mark [3]

(iv) Ideas such as:
Mechanisation;
Movement of people to urban areas;
Primary work is hard/can be dangerous/may be unreliable;
Exhaustion of resources/raw materials run out/soil exhaustion;
Loss of farmland to urbanisation;
Import of food/raw materials;
Country industrialises/more factories are built/more services are provided or demanded;
More or better pay in factories or more reliable work <u>in</u> factories/services or example or low pay <u>in</u> primary;
People become more educated etc.

4 @ 1 mark [4]

(b) (i) Increase in manufacturing;
Decrease in rubber/tin;
Use of paired statistics relating to either manufacturing; rubber or tin (Max 1).

<u>Figures:</u>
Manufacturing 15–20 to 78–83% or goes up by 58–68%
Tin 23–28 to 1–3% or goes down by 27–20%
Rubber 45–48 to 2–4% or goes down by 46–41%

N.B.: An answer that mixes trends such as rubber was most important in 1970 but in 2008 manufactured goods are more important = 1

3 @ 1 mark [3]

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(ii) Ideas such as:

Low cost of land;
Low cost labour;
Highly-skilled workers/educated workforce/universities;
Good transport infrastructure;
Enables access to global market;
Large/growing local market;
Reduced transport costs of finished product;
Government incentives;
Lower taxes;
Availability of electricity;
Less unions;
Work ethic/prepared to work long hours;
Lack of competition;
Agglomeration/companies are already there.

5 @ 1 mark or development [5]

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(c) Levels marking

Level 1 (1–3 marks)
Statements including limited detail which describe the impacts of agriculture on the natural environment.

Level 2 (4–6 marks)
Uses named example.

More developed statements which describe the impacts of agriculture on the natural environment.

(N.B. Max 5 if no named or inappropriate example)

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

Content Guide:
Answers are likely to refer to;
Soil erosion,
Pollution of rivers/groundwater,
Eutrophication,
Deforestation/clearance of vegetation,
Habitat loss,
Loss of biodiversity, etc.

Place-specific reference is likely to consist of:
Locational details;
Details of specific species, etc.

N.B.: Country is not an appropriate example. Development is of the impact not the cause. Natural environment focus. Impacts can be positive or negative and at any scale. [7]

[Total: 25]

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