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CAMBRIDGE INTERNATIONAL EXAMINATIONS

Cambridge International General Certificate of Secondary Education

MARK SCHEME for the October/November 2015 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.

During coordination the mark scheme is modified to add points agreed after discussion or to delete any points not allowed. All examiners should ensure that their modified scheme is fully up-to-date before marking begins.

Levels of response marking is used for part **(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). 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) Shading on Fig. 1. Shading must match the key.

1 mark [1]

(ii) Birth rate – death rate;
Plus migration

Birth rate + migration
Minus death rate

2 @ 1 mark [2]

(iii) Generally higher rates to north of line/lower rates south of the line;
two valid statistics to illustrate the above – e.g. many states to north are over 20 per 1000 but below 20 per 1000 to south;
ONE further mark available for two named states (one to north & one to south) with statistics e.g.: Kerala less than 10 but Bihar over 25 per 1000**;**
there are exceptions such as Punjab/West Bengal/Sikkm/Himachal Pradesh/Tripira/Nagaland – only accept these examples.

3 @ 1 mark [3]

(iv) Ideas such as:
poverty/from poor places/to rich places;
employment/wages;
health care provision;
education provision;
availability of food;
availability of water;
impacts of government policy;
drought;
natural disasters or example
war/security/persecution/safety/political stability;
entertainment/bright lights/social amenities;
opportunities for farming;
electricity etc.,
4 @ 1 mark [4]

(b) (i) Higher growth rate between 1951 and 1961 & lower growth rate between 2001 to 2011;
any two statistics to illustrate the above – one from each period;
increase 1951 to 1961 but decrease in growth rate 2001 to 2011;
use of comparative statistics to illustrate (1951 GR was 16–18; 1961 GR was 20–22; 2001 GR was 13–15 and 2011 GR was 11–13) – need all 4 statistics

3 @ 1 mark [3]

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(ii) Ideas such as;
improvement in health care/hospitals/equipment in hospitals;
more access to vaccinations;
more use of drugs/medicines/cures for diseases;
more doctors/nurses;
improvements in sanitation/hygiene;
more access to clean/piped water/less waterborne disease;
increased food supply/better diet;
education or awareness of better diet/disease prevention/hygiene;
move from traditional to modern healthcare;
pensions/care for elderly;
preparation/housing to withstand natural disasters;
specific measures to prevent named disease e.g. mosquito nets etc.

5 @ 1 mark or development [5]

(c) Levels marking

Level 1 (1–3 marks)
Statements including limited detail which describe a government population policy.

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

More developed statements which describe a government population policy.

(NB max. 5 if no or inappropriate named example)

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

Content Guide:
Answers may refer to pro-natalist or anti-natalist policies or policies relating to migration.

Place specific reference is likely to consist of:
Named parts of the chosen country,
Specific policy details,
Population data/name of policy etc.

NB: development is of the description.
If a candidate names a policy – for example, One Child Policy, award L1. This can then be developed by the use of a strategy such as free nursery education for a L2. For example, China introduced a One Child Policy (L1) which offered free nursery education (L2) to a **maximum of 1 x L2**…so an answer which mentions One Child Policy and fines and free education would score 1 x L2.

However, further awarding of an L2 would need to be for development of the incentive or strategy rather than development from the name of the policy – for example, people married later (L1) and had to ask permission from their factory owner (L2) or abortion encouraged (L1) through the use of granny police (L2). [7]

[Total: 25]

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2 (a) (i) Built up area/densely populated area/town/city/area with a large population/areas where lots of people live/lots of houses or businesses or services or industry/area with high order services**/**area with higher order services;

1 mark [1]

(ii) Inner city: convenience stores/individual shops
Outer suburbs: shopping centres/rows of shops

2 @ 1 mark [2]

(iii) Lots of people living around/surrounded by housing or residential areas;
at a major cross roads/road junction;
easy to get to (for customers)/accessible;
deliveries can be made easily/it's easy to transport goods to the shops;
lower cost land;
away from congestion in the CBD;
passing trade etc.

3 @ 1 mark [3]

(iv) **Ideas such as:**
modern;
low level;
landscaped/plants and tree surround it;
areas of parking;
large or specialist shops or suitable example;
offices;
hi–technology industry or example of any other valid industry;
specific entertainment example such as cinema complex/restaurants/stadium/hotels;
specific services e.g. tyre repair centre, car service centre
large area of land/spacious etc.

4 @ 1 mark [4]

(b) (i) Low order;
small sphere of influence/for the people who live nearby;
high frequency of use/use daily

3 @ 1 mark [3]

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(ii) Candidates can choose **any** appropriate shop or service. No mark for named example. Accept description or type.

Reasoning should be appropriate to choice of shop or service but generic ideas are likely to include:
People will use it regularly;
It will get lots of customers;
And make large profits;
There is not one there already;
So no competition;
Parking areas;
Window space etc.;

NB: if there is no example then 0 marks overall. If candidate writes about several options, then choose example which gains the most credit.

5 @ 1 mark or development [5]

(c) Levels marking

Level 1 (1–3 marks)
Statements including limited detail which describe and/or explain problems in CBD.

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

More developed statements which describe and/or explain problems in CBD

(NB max. 5 if no or inappropriate named example)

Level 3 (7 marks)
Uses named example.
Comprehensive and accurate statements which describe and explain problems in CBD including some place specific reference.

Content Guide:
Answers could refer to any problems in the CBD including congestion, atmospheric pollution, crime etc.

Place specific reference is likely to consist of:
Named parts/streets in the chosen CBD.

NB: need to develop description or explanation for L2 not description (L1) then explanation (L1) to make a L2.

Level 1:
For example, air pollution (L1 description) caused by high volume of traffic (L1 explanation).

Level 2:
For example, air pollution where more than 100 days per year in the city have smog (L2 description). For example, there are large numbers of cars which emit carbon monoxide from their exhausts (L2 explanation).

People and environment focus. Scale is CBD. Unspecified pollution = 0. [7]

[Total: 25]

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3 (a) (i) Edge of tectonic plates/where plates meet/where plates move apart/where plates move together/margin of tectonic plates.

1 mark [1]

(ii) Any two correct arrows (on any margin, can be on different margins)

2 @ 1 mark [2]

If candidates mark extra arrows, minus one mark for each mistake. For example, 4 arrows with 2 marked on = 0.

(iii) plates move apart;
due to convection currents;
gap created;
magma rises/magma moves upwards;

3 @ 1 mark [3]

(iv) plates move towards each other;
due to convection currents;
subduction/one plate goes under the other;
destruction/melting of crust/molten rock is made/magma is created;
build up of magma/pressure increases;
magma forced upwards/through lines of weakness;

4 @ 1 mark [4]

(b) (i) Ideas such as:
Deaths/injuries
Collapse of buildings/settlement destroyed/city destroyed/people homeless;
Dam breaks/floods (farmland);
Electricity supply disrupted/HEP station destroyed/pylons destroyed;
Gas pipeline fractured/fires break out;
Roads blocked/bridge collapse etc.

3 @ 1 mark [3]

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(ii) Ideas such as:
poor quality of buildings;
not built using `earthquake proofing` or examples (max. 2);
not likely to have evacuation procedures;
and education re: precautions/education about earthquakes;
such as drills;
poor level of medical care;
lack finance to rebuild/recover;
rescue teams will be poorly prepared/lack equipment;
so they will have to wait for international aid;
poor quality roads for rescue and/or evacuation;
inability to cope with after effects e.g. food/water/shelter;
LEDC problems such as lack of food, poor water, and sanitation made worse by earthquake etc.

NB assume LEDC context unless otherwise stated.

5 @ 1 mark or development [5]

(c) Levels marking

Level 1 (1–3 marks)
Statements including limited detail which explain the causes of an earthquake.

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

More developed statements which explain the causes of an earthquake.

(NB max. 5 if no named or inappropriate example)

Level 3 (7 marks)
Uses named example.
Comprehensive and accurate statements which explain the causes of an earthquake including some place specific reference.

Content Guide:
Answers are likely to include reference to:
plate boundary,
relative movement of plates,
friction,
pressure build up,
release of pressure,
vibrations etc.

Place specific reference is likely to consist of:
Named plates,
Specific locational details,
Date/Richter scale measurement etc.

NB: less than country scale. Not country scale unless small or whole area affected. Tsunami is OK but candidates must write about the causes of the earthquake that caused the tsunami.
Development is of the explanation. [7]

[Total: 25]

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4 (a) (i) Paraguay [1]

(ii) on/around Equator/near the Equator;
between…appropriate latitude reference (within range of 13 N and 22 S)

NB: need N and S. Do not need degrees. Must refer to lines of latitude.

2 @ 1 mark [2]

(iii) Ideas such as:
High temperature/29/30/31 °C
Low temperature range/range of 2 °C/temperature is constant;
High (annual) rainfall/around 2000 mm (tolerance of + or – 100 mm) of rainfall/it rains every month;
Rainfall fluctuates/75 mm to 300 mm/wettest between May and June/driest in Sep and Oct;
High humidity/69–77%/similar humidity each month.

3 @ 1 mark [3]

(iv) Ideas such as:
high temperatures due to position on Equator/near Equator/low latitude/10 N of Equator;
high angle of sun`s rays;
constant overhead sun/sun's rays more concentrated;
(high humidity due to) large amounts of evaporation;
and lots of transpiration/evapotranspiration or from abundant vegetation;
lots of condensation;
low pressure/air rising/lots of convection etc.;

4 @ 1 mark [4]

(b) (i) Characteristics such as:
Tall trees/emergents;
Dense vegetation/undergrowth/many shrubs or bushes;
Palm/banana trees;
Trees of varying heights/layers;
(large) variety of vegetation;
thin trunks;
fewer lower branches;
clearing in foreground

3 @ 1 mark [3]

(ii) Ideas such as:
all year round growing season so large amounts of vegetation;
high temperatures encourage abundant plant growth/high biodiversity;
and there is sufficient rainfall for many different
plants to survive/rapid plant growth;
emergents reach up for sunlight/fewer lower branches/straight trunks;
drip tip leaves because of heavy rainfall;
evergreen as hot and wet all year;
large leaves to absorb sunlight etc.

5 @ 1 mark or development [5]

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(c) Levels marking

Level 1 (1–3 marks)
Statements including limited detail which explain why deforestation is taking place.

Level 2 (4–6 marks)
Uses named example.
More developed statements which explain why deforestation is taking place.

(NB max. 5 if no named or inappropriate example)

Level 3 (7 marks)
Uses named example.
Comprehensive and accurate statements which explain why deforestation is taking place including some place specific reference.

Content Guide:

Answers are likely to include reference to:
Logging,
Road building,
Mineral extraction,
HEP schemes,
Settlement,
Commercial agriculture,
Ranching etc.

Place specific reference is likely to consist of:
Named places,
Specific details of development schemes etc. [7]

[Total: 25]

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5 (a) (i) Pastoral and commercial **(both needed)**

1 mark [1]

(ii) High yields (per hectare);
High amount of inputs (per hectare) or specific example such as workers, fertilisers, machinery;
Small amount of land

2 @ 1 mark [2]

(iii) Any photograph can be chosen (no mark).
Processes will depend on choice of photograph.

E.g. photograph E:
ploughing,
planting,
applying fertilizer,
irrigation,
spraying,
harvesting
packing etc.

NB: if Photograph C is mentioned accept breeding but not slaughtering.

Photograph and process must match.

3 @ 1 mark [3]

(b) (i) Mixed farming: in north of country;
pasture: mainly in west;
crops: mainly in south;

3 @ 1 mark [3]

(ii) Look for two generic ideas from the map linked to land use:

- relief (max. 1 mark)
- water/river/valley (max. 1 mark)

For example, crops grown on low land.

The further two marks are available for justification – look for a reason to explain the link between the factor and the land use. For example, forest on highland [1] because the land is too poor for crops to be grown [2]
OR
there are crops in valleys [1] because soils are fertile [2]

4 @ 1 mark [4]

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(iii) Ideas such as:
government can give incentives to grow some crops;
by offering minimum prices/subsidies;
government can restrict the amount produced of certain products;
by the use of quotas;
or set aside;
government can encourage the use of new technology;
by offering loans/grants to farmers at low rates of interest;
government can invest in research and development;
impact of war/conflict;
government takes land for farming for settlement/industry/airports etc.;

5 @ 1 mark or development [5]

(c) Levels marking

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

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

More developed statements which explain why food shortages are being experienced.

(NB max. 5 if no named or inappropriate example)

Level 3 (7 marks)
Uses named example.
Comprehensive and accurate statements which explain why food shortages are being experienced including some place specific reference.

Content Guide:

Answers are likely to include reference to:
Drought,
Floods
Pests
Soil erosion,
Natural disaster etc.

Place specific reference is likely to consist of:
Named places,
Specific climatic details,

NB: Sahel is acceptable for an area. Not a named desert. [7]

[Total: 25]

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6 (a) (i) When the air is made unclean/when chemicals make the air impure/ harmful substances in the air/air is made dirty

1 mark [1]

(ii) Ideas such as:
chemical sprays/fertilizer sprays/insecticide sprays;
fumes from agricultural machinery or tractors/tractors burn fossil fuels;
methane from cattle/gas from cows;
smells from manure/silage;
burning stubble/burning vegetation for farmland

2 @ 1 mark [2]

(iii) emissions of carbon dioxide/named gas e.g. methane, CFCs, nitrous oxide;
greenhouse gas;
build up in atmosphere;
and trap the heat/act like a blanket/trap the sun's rays

3 @ 1 mark [3]

(iv) Ideas such as:
melting of ice caps;
sea level rises;
loss of habitats;
threat to/extinction of species/examples of animals threatened;
impact on food chains;
flooding of coastal lowlands/islands;
some area will become drier/drought;
and crop production will be reduced/famine caused;
more incidence of weather related hazards/(e.g. floods/storms)
tropical insects/mosquitos may spread to other areas;
people die in excessive heat;
negative impact on alpine tourism/skiing resorts etc.

4 @ 1 mark [4]

(b) (i) oil and gas fields extraction/transport/oil tanker;
radioactive waste site;
untreated sewage;
industrial waste etc.

Candidates can use wording from the key or use their own wording e.g. waste from nuclear power plants.

3 @ 1 mark [3]

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(ii) Ideas such as:
there is a large environmentally sensitive area nearby;
preservation of habitats;
less species will be killed/animals killed/fish die;
fewer impacts on food chains/ecosystems;
there is an area of tourism close by;
more tourists will be attracted if pollution is reduced;
there are fishing grounds nearby;
fish stock will increase if there is less water pollution;
so local fisherman will make more money;
contaminated fish won't be consumed by humans;
to reduce water borne disease;
no mutations due to radiation in water;
increased oxygen in water etc.;

NB: accept vice versa answer. Can develop one idea up to a max. of 4.

5 @ 1 mark or development [5]

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(c) Levels marking

Level 1 (1–3 marks)
Statements including limited detail which describe attempts to maintain, conserve or improve the natural environment.

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

More developed statements which describe attempts to maintain, conserve or improve the natural environment

(NB max. 5 if no named or inappropriate example)

Level 3 (7 marks)
Uses named example.
Comprehensive and accurate statements which describe attempts to maintain, conserve or improve the natural environment including some place specific reference.

Content Guide:

Answers are likely to include reference to:
Legislation,
National Parks,
Nature reserves,
Specific measures (e.g. tree planting) etc.

NB: not a country. Development is of the description. An urban area is an inappropriate example so max. of 5. [7]

[Total: 25]

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