GradeMax

Cambridge International Examinations
Cambridge International General Certificate of Secondary Education

GEOGRAPHY **0460/12**

Paper 1 **May/June 2016**

MARK SCHEME

Maximum Mark: 75

Published

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.

Marking Mechanics.

Point marking is used for sections **(a)** and **(b)** of each question, although marks are available in specified questions for development of appropriate points. Ticks should be used to clearly indicate where a mark has been allowed. Where a development point has been allowed the symbol "DEV" should be placed adjacent to the tick. The number of ticks should always be equal to the total number of marks awarded. Only one development mark for each mark scheme point please.

Where a candidate makes a point which is not quite sufficient for credit an upturned `V` insert symbol should be used. If after careful consideration a mark is awarded which gives `benefit of doubt` to the candidate the letter `J` should be placed adjacent to the tick (i.e. the candidate has `just` achieved the mark).

Crosses are acceptable to signify wrong answers and the letters `I/R` should be used to indicate those which are irrelevant.

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). Highlight place specific detail.

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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 eg (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) 17.2 out of 1000 people die per year or in 2013 /1.72% of the population died in 2013. **[1]**

NB: South Africa is not needed. Look for 17.2 as an exact figure.

(ii) Vietnam **[2]**

Kuwait

2 @ 1 mark (2)

(iii) Ideas such as (variations in amount/quality of): **[3]**

health care/hospital/clinics/medicines;
number of people per doctor/availability of doctors;
food supply/diet/famine/starvation;
water supply/quality/drought;
sanitation/hygiene;
diseases or examples/AIDS or HIV;
wars;
vaccinations;
education about healthcare/disease;
care for the elderly/pensions etc

3 @ 1 mark (3)

(b) (i) Steep reduction from 1960 to 2000; **[3]**
levels off after 2000
or
Look at the four time periods on the graph and accept any two statements with appropriate dates.
steep reduction – Period 1
gentle reduction – Period 2
steep decline – Period 3
levels off – Period 4

MAX 1 for at least 2 supporting statistics (eg 47 in 1960, 17 in 2000). Can accept a figure for the change with two supporting dates.

NB: Reserve 1 mark for statistics. Do not need per 1000. Accept tolerance on statistics – plus or minus one either way. We are not looking for candidates to describe the overall trend (1960–2015). However, statistics for these years would be fine.

3 @ 1 mark (3)

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(ii) Ideas such as: **[4]**

government restricted family size/number of children by the use of 2 child limit;
people fined/ had land taken off them/lost income if they did not follow the policy;
incentives such as education for two children only;
contraception/abortions made available or made cheaper;
campaigns for people to use contraception/abortions;
people concentrating on careers;
education of women;
education about family planning;
later marriages;
improvement of infant healthcare/lower IMR;
pensions;
mechanisation of farms/less agricultural work/more emphasis on secondary and tertiary sector etc.

4 @ 1 mark (4)

(iii) Ideas such as: **[5]**

they have fallen below replacement level/population decline/death rates higher than birth rates;
shortage of workers/shortage of working class/less economically active/no one to care for the elderly/people to exploit the resources;
low level of production/businesses fail;
difficult to defend country;
ageing population/increase in elderly people/lots of old dependents;
lack of innovation;
closure of schools/nurseries;
need to raise more taxes/less tax payers/burden on economically active;
need to pay more pensions/provide more care homes/healthcare for the elderly;
economic decline/reduces the economy;
need to encourage migration etc.

5 @ 1 mark or development (5)

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(c) Levels marking **[7]**

Please ensure that you refer to the marking mechanics section at the front of the mark scheme before marking the level questions.

NB: Statistics can be used as development to a maximum of 1 × L2 – 4 marks. This applies to all levels marked questions.

Level 1 **[1–3 marks]**

Statements including limited detail which describe the problems caused by over–population.

Level 2 **[4–6 marks]**

Uses named example.
More developed statements which describe the problems caused by over–population.

(NB 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:
not enough housing
water and air pollution
shortage of food and water
high crime rates
not enough health care and education
lack of employment
poverty etc

Place specific reference is likely to consist of:

Named parts of the chosen country/locational detail,
Population data/statistics

NB: Development is of the problem not the causes. The focus is on impacts within the country.

[TOTAL 25 marks]

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2 (a) (i) A settlement in the countryside/small settlement/a settlement surrounded by fields/a settlement consisting of only a few houses. **[1]**

1 mark (1)

(ii) Ideas such as both; **[2]**

are linear/have developed along a road;
are aligned from north–south;
are small/about 400 metres long/around 13–16 buildings/only a few buildings in them;
both have large and small buildings;
both surrounded by fields etc.

2 @ 1 mark (2)

(iii) Ideas such as: **[3]**

separated by countryside/farmland/woodland/by fields;
buildings are scattered/separated from each/in small groups/far apart/spread out;
no focus/central part of settlement/no roads meet in the middle;
no/few services available;
low population density/sparsely populated etc.

3 @ 1 mark (3)

(iv) Ideas such as: **[4]**

roads from all directions meet/nodal point/crossroads;
flat land;
no restrictions to development in any direction;
presence of a water source/spring/well/lake;
mine/natural resource/quarry;
bridging point;
defensive site etc.

NB: The focus of the question is on nucleation rather than growth.

4 @ 1 mark (4)

(b) (i) Ideas such as: **[3]**

increase of built up area;
increase in high class residential area/high class residential area moved north and west;
small settlements swallowed up by urban sprawl/surrounding
settlements (or example) became part of urban area
closure of coal mines;
increase in industrial sites/or example;
new motorway built/M4 built/more roads etc

3 @ 1 mark (3)

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(ii) Ideas such as; **[5]**

coastal site/port;
easy import/ easy export/transporting products/trade;
flat, low land for construction;
coal available;
fuel smelting/powering of machinery;
good roads/motorway;
component factory/tin works provided raw materials/components for other industries/steel for component factory;
cost of transported raw materials/components was low;
abundant/skilled workforce;
market;
availability of water;
lots of space/cheap land etc.

5 @ 1 mark or development (5)

(c) Levels marking **[7]**

Level 1 **[1–3 marks]**

Statements including limited detail which describe the hierarchy of services.

Level 2 **[4–6 marks]**

Uses named example.

More developed statements which describe the hierarchy of services.

(NB Max 5 if no named or inappropriate example)

Level 3 **[7 marks]**

Uses named example.
Comprehensive and accurate with some place specific reference.

Content Guide:
Answers are likely to refer to;
Number of services;
Specific types/examples of services,
Order of services etc

Place specific reference is likely to consist of:
Named settlements,
Locational details of services,
Named shops and services etc

NB: The example can be a named area of any size. Development is of the description. If the answer focuses on a city rather than an area then MAX 5.

[TOTAL 25 marks]

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3 (a) (i) A process involving the load/materials being dropped/dumped/left behind by the waves/the build-up of materials on a beach or by the sea. **[1]**

1 mark (1)

(ii) Ideas such as they: **[2]**

are not powerful/they are gentle;
ave a swash that is stronger than the backwash/strong swash/weak backwash;
have a long wavelength;
are low in height;
reach the shore between 6 and 9 times each minute/low frequency;
roll onto the beach/do not crash onto it/spilling;
build up beach/deposit material/do not erode.

2 @ 1 mark (2)

(iii) Ideas such as: **[3]**

Prevailing winds cause waves to approach at an angle to the shore;
Swash carries loose material up the beach at an angle/in same direction as prevailing wind;
Backwash takes material back out at 90 degrees/straight back/perpendicular;
Zigzag motion moves materials along the beach/in the same direction/along the coast

3 @ 1 mark (3)

(iv) Features such as: **[4]**

long and thin/elongated;
curved/hooked end;
attached to land at one end only;
stretches partly across estuary/bay/river mouth;
made of sand shingle/may be covered by sand dunes/deposited material;
low in height/just above sea level;
(salt) marsh develops behind spit etc

NB: Award appropriate ideas on a diagram as long as they are labelled.

4 @ 1 mark (4)

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(b) (i) Evidence such as: **[3]**

cliff;
undercut/uneven profile/notches/jagged;
cave;
bay/uneven coastline/headland;
areas of (fallen) rock at base of cliff /big bounders at base of cliff or near the cliff/rocks broken off the cliff

3 @ 1 mark (3)

(ii) Ideas such as: **[5]**

rock type;
consolidated or unconsolidated rock;
hard/strong or soft/weak rock;
presence of lines of weakness/joints/bedding planes;
whether rocks will be eroded by corrosion or not;
wave power/wave type/amount of swash and backwash;
presence or absence of coastal defences;
distance of fetch;
stabilized by vegetation;
width of/presence of beach or whether shallow or deep water;
shelter;
wind strength;
wave refraction;
impact of other processes e.g. sub–aerial processes etc.

5 @ 1 mark or development (5)

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(c) Levels marking **[7]**

Level 1 **[1–3 marks]**

Statements including limited detail which describe or explain what is being done to manage the impacts of coastal erosion.

Level 2 **[4–6 marks]**

Uses named example.

More developed statements which describe or explain what is being done to manage the impacts of coastal erosion.

(NB 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:
Hard engineering – sea walls/groynes/gabions/revetments etc.
Soft engineering – beach nourishment etc.
Types of rocks

Place specific reference is likely to consist of:
Locational details,
Details of named parts of the area
Reference to specific schemes/costs etc.

NB: Accept any type of erosion including human. The amount of money spent on a scheme is not a suitable development for L2 but would be fine for place specific detail.

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4 (a) (i) Rainfall **[1]**

1 mark (1)

(ii) A = Wet and dry (bulb) thermometer/hygrometer **[2]**

B = Wind vane/weather vane/wind cock/windsock

2 @ 1 mark (2)

(iii) Ideas such as: **[3]**

use a rain gauge/digital rain gauge;
collecting jar with funnel/linked to computer;
water poured into a measuring cylinder/water is read from jar/measured using a scale;
put out in the open/area which is not sheltered by
trees/buildings/buried in the ground (MAX 1 SITE);
take measurements every 24 hours/fixed period/same
time of day etc

3 @ 1 mark (3)

(iv) Screen is painted white so that it reflects heat or sunlight / reduces direct heating by the sun / does not absorb sunlight; **[4]**

Sides have slats / louvres / have spaces / gaps / not solid so that
air can circulate;
Screen / box is made of wood so that heat is not conducted into it;
Roof is made of a double layer of wood so that air space maintains a constant temperature;
Screen stands more than 1m / raised on legs above the ground so
that instruments are not affected by heat from the ground;
Door opens to the north in the northern hemisphere/to the south in the southern hemisphere to avoid sun's rays.

NB: Feature and link is needed.

4 @ 1 mark (4)

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(b) (i) Ideas such as: **[3]**

hot and dry;
temperatures vary from 13 to 33 °C/range of 20 °C;
hottest months are June/July/August or coldest months are Dec/Jan/Feb (or one from each) – need two months
rainfall varies from 0 to 18 mm monthly/range of 18 mm;
wettest months are Dec/Jan/Feb or driest months are April/May/June (or one from each) – need two months.
annual rainfall of approx 91 mm (accept 80–100 mm);
hot and dry in summer and cooler and wetter in winter

NB: No tolerance on individual statistics

3 @ 1 mark (3)

(ii) Ideas such as: **[5]**

Overhead sun/high angle of sun/only a small area to heat up/sun's rays are more concentrated;
High air pressure;
Descending air;
Air heats as it descends;
Therefore no condensation;
Little or no surface water;
Little or no evaporation;
Little or no transpiration/evapotranspiration;
Wind direction over large areas of land/Trade winds;
Rain shadow effect;
Cold ocean currents;
Distant from sea/landlocked etc

5 @ 1 mark or development (5)

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(c) Levels marking **[7]**

Level 1 **[1–3 marks]**
Statements including limited detail which describe and/or explain the characteristics of natural vegetation of hot deserts.

Level 2 **[4–6 marks]**

Uses named example.

More developed statements which describe and explain the characteristics of natural vegetation of hot deserts.

(NB Max 5 if no named or inappropriate example)

Level 3 **[7 marks]**

Uses named example.
Comprehensive and accurate statements, which describe and explain the characteristics of natural vegetation of hot deserts, including some specific reference.

Content Guide:
Answers are likely to refer to:
Root systems,
Spines/thorns,
Plants remain dormant until rain falls,
Fleshy stems,
Waxy leaves etc

Place specific reference is likely to consist of:
Locational details;
Specific named plant types – accept cactus

NB: A country is not an appropriate example so MAX 5.

[TOTAL 25 marks]

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5 (a) (i) Canada…Brazil…China…Sudan **[1]**

1 mark (1)

(ii) Ideas such as; **[2]**

Generally higher in North America;
More variation in South America

2 @ 1 mark (2)

(iii) Ideas such as: **[3]**

It takes into account a variety of factors/uses more than one indicator;
Life expectancy/education (numbers of years in school) are used to give a better index of development than income alone;
Easy to carry out statistical comparisons between countries/change over time etc

3 @ 1 mark (3)

(iv) Ideas such as: **[4]**

length of time in which development has been occurring;
impacts of colonisation;
presence/absence of raw material/resources or examples;
development of a specific economic activity such as tourism, mining or manufacturing;
accessibility/presence of port/land locked/transport;
government policies;
political system/level of corruption;
levels of education/skills of workforce;
investment/aid from other countries/loans;
trade policy/free trade;
presence of transnationals;
wars/civil unrest;
rely on low value primary products;
over-reliance on one product;
AIDS/HIV (not other named diseases) etc.

4 @ 1 mark (4)

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(b) (i) A = Ethiopia **[3]**

B = Tanzania
C = Ethiopia

3 @ 1 mark (3)

(ii) One mark for South Africa or Egypt. **[5]**

Four further marks for reasoning such as:
South Africa uses the largest amounts of energy;
which indicates the presence of industry;
so GNP per capita will be higher than the other countries;
literacy is highest;
which indicates that the population is well
educated;
the number of doctors is greater than 5 of the other
countries/high number of doctors;
so health care is likely to be good etc.

Egypt has the highest life expectancy;
which indicates good healthcare/diet etc.;
Number of doctors is highest;
Doctors are more available/diseases are more readily treated;
Third highest energy use/energy use is high:
Which indicate the presence of industry;
So GNP per capital will be higher than other countries;

NB: Candidates need to describe the indicator in order to then go on to access the development mark.

5 @ 1 mark or development (5)

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(c) Levels marking **[7]**

Level 1 **[1–3 marks]**
Statements including limited detail which describe the positive and/or negative impacts of a transnational corporation.

Level 2 **[4–6 marks]**

Uses named example.

More developed statements which describe the positive and/or negative impacts of a transnational corporation.

(NB Max 5 if no named or inappropriate example)

Level 3 **[7 marks]**

Uses named example.
Comprehensive and accurate statements, which describe the positive and negative impacts of a transnational corporation, including some place specific reference. Must have both positive and negative but one can be at L1.

Content Guide:
Answers could refer to:
Employment,
Economic growth,
Infrastructural development,
Exploitation,
Environmental destruction etc.

Place specific reference is likely to consist of:
Locational details;
Specific details of transnational,
Named settlements etc.

NB: The focus of the question is advantages and disadvantages for the country and not the TNC.

[TOTAL 25 marks]

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6 (a) (i) something which spoils the beauty of the **[1]**

landscape/an eyesore/pollution that is visible to the eye/pollution you can see/makes the landscape look unsightly

1 mark (1)

(ii) Ideas such as: **[2]**

deforestation/clearance of vegetation;
overgrazing;
leaving areas of land fallow;
ploughing up and down the slope;
monoculture/overcultivation;

2 @ 1 mark (2)

(iii) Ideas such as: **[3]**

Manufacturing: disposal of (toxic) waste by manufacturing industry/dirty or waste water;
Transport: oil spills from tanker accidents/washing out fuel tanks/fuel spills;
Power Stations: return of hot water to rivers from power stations/radioactive water to sea from nuclear power stations;
Agriculture: run off of fertilizers/pesticides from farmland/animal waste or slurry etc

NB: Do not double credit. Three distinct ideas needed. Acid rain would be OK for all three but again no double credit please. No mark for the economic activity but candidates must name an economic activity.

3 @ 1 mark (3)

(iv) Ideas such as: **[4]**

fumes from burning of fossil fuels or coal;
clearance of vegetation;
gives off carbon dioxide/greenhouse gases;
carbon dioxide cannot be converted to oxygen;
methane from grazing/rice paddies;
greenhouses gases/carbon dioxide build up in atmosphere;
sun's rays pass through the layer of gases;
but are trapped/cannot escape etc

4 @ 1 mark (4)

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(b) (i) Uses less resources/less demand for resources or example/there are fewer resources wasted; **[3]**

Saves resources for the future;
Can use resources again/make more use
Resources last longer;
Saves energy;
Waste products become useful.

NB: Repeat of the three words is OK as long as in context.

3 @ 1 mark (3)

(ii) Ideas such factors such as: **[5]**

many are non–renewable/will run out/are finite;
life in future would not be possible without clean water;
life in future would not be possible without clean air;
and life in future would not be possible without land for cultivation;
to protect habitats;
conserving natural environment will ensure ecosystems
remain in balance;
species do not become extinct/animals do not die;
to prevent global warming, acid rain, desertification etc. (MAX 1);
creates conflict/civil rest;
forests act as carbon sinks

NB: Candidates can develop the global warming, acid rain, desertification etc. line to a MAX 1.

5 @ 1 mark or development (5)

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(c) Levels marking **[7]**

Level 1 **[1–3 marks]**

Statements including limited detail which describe how energy is supplied

Level 2 **[4–6 marks]**

Uses named example.

More developed statements which describe how energy is supplied

(NB 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:
Power stations,
Fossil fuels,
Domestic supplies and imports,
Renewable energy
Production methods

Place specific reference is likely to consist of:
Locational details,
Named areas/settlements within the country,
Statistics etc

NB: Focus in on supply not uses. Can achieve full marks from one energy source.
Development is of the description.

[TOTAL 25 marks]

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