

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

**0460 GEOGRAPHY**

**0460/11**

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.

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1 (a) (i) An area where many people live in a small area/per square kilometre/over 50 people per square kilometre;

1 mark [1]

(ii) A. Europe, France, NE USA/Eastern USA, Japan, England, Wales, Northern Ireland, California etc.

B. Indonesia, Eastern China, Japan, India, Singapore, Thailand, Philippines etc.

2 @ 1 mark [2]

(iii) A. Ideas such as:

e.g. Area X

it is an area of desert/there are inadequate water supplies;

food cannot be grown/crops can't be grown;

many parts are isolated/poor communications/inaccessible/no roads;

there are few resources;

there is little employment/no jobs; etc.

e.g. Area Y

temperatures are low/very cold for much of year/long winters/short summers;

food cannot be grown/crops can't be grown;

difficult to get to/remote/inaccessible/seas are frozen for several months;

there are few resources;

there is little employment/no jobs;

snow/ice covered; etc.

3 @ 1 mark [3]

(b) (i) Ideas such as:

flood plain/it might flood;

marshy land/swampy;

people do not want their homes/settlements/crops flooded;

land likely to be used for rice/irrigated/farmland;

3 @ 1 mark [3]

(ii) Ideas such as:

relief is high/steep/mountainous/hilly/hills/no flat land;

it is difficult to build homes/settlement/expensive to build;

roads will be hard to construct/difficult to get to/inaccessible;

low temperatures;

high precipitation/wet;

windy;

mud/land slides;

would need to build terraces to grow crops; etc.

4 @ 1 mark [4]

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- (iii) Ideas such as:  
 fertile soils/so crops yield is good; (DEV)  
 availability of water for drinking/cleaning/washing/domestic use;  
 water for irrigation/agricultural idea/livestock;  
 communications by river/travel;  
 easy to build road/railway line;  
 river is source of fish/go fishing;  
 flat building land/easy to build settlements;(or DEV)  
 fast flowing water for HEP;  
 defence from meander;  
 bridging point;  
 renewable energy/clean energy; etc.

5 @ 1 mark or development

[5]

**(c) Levels marking**

Level 1 (1–3 marks)

Statements including limited detail which describe and/or explain in population distribution.  
 (e.g. south is more densely populated than north, more water supply, more jobs, not enough food produced in north, better communications in south etc.)

Level 2 (4–6 marks)

Uses named example.

More developed statements which describe and/or explain population distribution.  
 (e.g. south is more densely populated than north in the main river valleys, more water supply for agriculture in the south so more food produced, more jobs in south where most towns and cities are located, better communications including airport in south etc.)

(NB Max 5 if no named example)

Level 3 (7 marks)

Uses named example (e.g. Niger). Which describe and explain population distribution. Must have sparse and dense areas with description and explanation.

Comprehensive and accurate statements including some place specific reference.

(e.g. the south has more water than the north therefore lack of domestic/agricultural water supply in north; the valley of the river Niger is densely populated as it is an attractive area to settle as it offers the best land to build settlements/communications/most fertile land; densely populated areas in south are better served by communications/airport at Bamako; southern parts are closer to boundaries of more countries e.g. Guinea/Ivory Coast thus more opportunities for trade etc.)

[7]

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- 2 (a) (i) General store/B;
- 1 mark [1]
- (ii) Ideas such as:  
 People visit supermarket more frequently than department store; Reserve 1.  
 e.g. over half visit supermarket weekly but almost three quarters visit department store monthly or less;  
 may also quote figures; etc.
- 2 @ 1 mark [2]
- (iii) Ideas such as:  
 people buy low cost items from general store more frequently;  
 people will use higher order services less frequently/low order more frequently;  
 people do not need to buy specialist goods (or example) as often as they buy food items;  
 people will use general store more frequently as they are likely to live close by etc.
- 3 @ 1 mark [3]
- (iv) Ideas such as:  
 plenty of space in rural-urban fringe/large amount of open space/room for expansion;  
 cost of land is low/high cost of land in CBD;  
 proximity to urban area for large numbers of customers/residents;  
 and customers can access it from surrounding settlements;  
 good road connections/easy access;  
 away from congested area in CBD /less traffic congestion;  
 greenfield site easier to build on; etc.
- 4 @ 1 mark [4]
- (b) (i) Towns with more population have more shops; Reserve 1  
 e.g. town of 20000 population has 150 shops but town of 250000 has 1800 shops/or two contrasting numbers; however the relationship is not exact/or figures to illustrate anomaly/not perfect correlation;
- 3 @ 1 mark [3]
- (ii) Ideas such as:  
 some shops will be bigger in Y;  
 In Y there will be higher order shops;  
 selling more specialist items;  
 there will be more choice of shops selling the same items/comparison goods;  
 large towns will be more likely to have shops in pedestrianised area/precinct in CBD;  
 and have out of town retail park/shopping malls;  
 shops in Y will have larger sphere of influence;  
 wider variety in Y (shops or goods sold)/more big names/chain stores; etc.  
 Any 2 contrasting examples to max 1.
- NB Must look for comparative statements
- 5 @ 1 mark or development [5]

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(c) Levels marking

Level 1 (1–3 marks)

Statements including limited detail describing hierarchy of settlements.  
(e.g. lots of small settlements than big ones, one big city)

Level 2 (4–6 marks)

Uses named example.

More developed statements describing hierarchy of settlements.

(e.g. More small villages than large cities, one big city which is the capital, several large cities within each part of the country etc.)

(NB Max 5 if no named example)

Level 3 (7 marks)

Uses named example (e.g. UK).

More developed statements describing hierarchy of settlements, including some place specific reference.

(e.g. More small villages, especially in rural areas like Norfolk, than large cities; one large city, London, which is the capital; several large cities within each part of the country e.g. Norwich, Birmingham, Liverpool etc.) [7]

**[Total: 25]**

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- 3 (a) (i) (Relative) humidity
- 1 mark [1]
- (ii) B. Anemometer
- C. Barometer
- 2 @ 1 mark [2]
- (iii) One mark for correct reading of maximum temperature 26–27°C;  
One mark for correct reading of minimum temperature 20–21°C;  
One mark for correct calculation of range/use of correct formula;
- 3 @ 1 mark [3]
- (iv) Ideas such as:  
high up/higher than playground;  
above trees and/or buildings;  
not sheltered/nothing to interfere with wind/block wind;  
playground may be sheltered by school buildings/objects;  
will not be damaged by children/can be damaged in playground;  
roof is not used for anything else;  
etc.
- 4 @ 1 mark [4]
- 3 (b) (i) A. white colour
- B. slatted sides
- C. legs/raised above ground
- 3 @ 1 mark [3]
- (ii) Ideas such as:  
open space/away from trees and/or buildings/middle of field;  
so readings are not affected by shelter they provide (reason);  
above grass/not above concrete;  
as temperatures above concrete will be artificially high (reason);  
in a fenced/walled compound; to avoid tampering (reason)/away from animals  
(damage idea); etc.
- 5 @ 1 mark crediting reasoning as development [5]

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(c) Levels marking

Level 1 (1–3 marks)

Statements including limited detail describing problems experienced by people as a result of tropical storms.

(e.g. people killed, crops destroyed, they have no water to drink, houses damaged, strong winds destroy houses, people have to evacuate, roads flooded/blocked, list of what need to do to prepare. etc.)

Level 2 (4–6 marks)

Uses named example.

More developed statements describing problems experienced by people as a result of tropical storms.

(e.g. people have to walk long distances to find fresh water; damage to crops leads to lack of food; death through starvation/malnutrition/drowning etc.; people have to evacuate and live in refugee camps, roads flooded/blocked so aid cannot be sent in etc.)

(NB MAX 5 if no named example)

Level 3 (7 marks)

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

Comprehensive and accurate statements describing problems experienced by people as a result of tropical storms, including some place specific reference.

(e.g. 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]

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4 (a) (i) January/February/March/April

1 mark [1]

(ii) high temperatures/26–27°C/above 25°C /below 30°C;  
low temperature range/no (seasonal) variation/all year round;

2 @ 1 mark [2]

(iii) Ideas such as:  
warm/hot/wet climate (encourages growth);  
evergreen due to lack of a cold season/limited seasonal change/continual growing season;  
lots of sunshine/overhead sun/sunny;  
humid; etc.

3 @ 1 mark [3]

(iv) Ideas such as:  
lots of different species/huge variety;  
e.g. teak/mahogany etc. (max 1 examples);  
tall/high;  
thin;  
little undergrowth;  
lianas;  
parasites/epiphytes/fungi;  
layers;  
canopy/under canopy;  
emergents;  
buttress roots;  
dense/thick;  
drip tips;  
leaves at top/branchless trees;  
shrubs/shrub layer/short bushes; etc.

4 @ 1 mark [4]

(b) (i) Ideas such as:  
road building;  
ranching/raising animals;  
mining;  
use wood from trees/timber extraction/wood for examples;  
commercial cultivation;  
industrial development/factories;  
build settlements/housing/cities;  
relocate from cities;  
charcoal; etc.

3 @ 1 mark [3]



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- (ii) Ideas such as:  
 food chains will be 'broken'/destroyed; as plant life/species will be removed;(DEV)  
 therefore lack of food for herbivores;  
 carnivores will have nothing to prey on;  
 soils will be less well drained;  
 flooding is likely;  
 compaction of topsoil occurs;  
 as a result of lack of interception/protection by vegetation;  
 soil erosion may occur/blown away/washed away/dries up;  
 soil settles on river bed/displaces water;  
 animals scared/run away/killed; extinction; (DEV) etc.

5 @ 1 mark or development

[5]

(c) Levels marking

Level 1 (1–3 marks)

Statements including limited detail describing and/or explaining the main features of desert climates.

(e.g. hot, dry, no clouds, sun overhead, high pressure, no rainfall etc.)

Level 2 (4–6 marks)

Uses named example.

More developed statements describing and/or explaining the main features of desert climates.

(e.g. large diurnal range of temperature, high daytime and low night time temperatures, dry climate due to long distance of deserts from oceans, absence of moderating influence of water body raises temperatures in summer months, winds blow over large areas of land hence no source of moisture, high pressure results in descending air therefore no convection/condensation etc.)

(NB MAX 5 if no named example)

Level 3 (7 marks)

Uses named example (e.g. Sahara desert).

Comprehensive and accurate statements describing and explaining the main features of desert climates.

(e.g. large diurnal range of temperature, dry climate due to long distance of deserts from Atlantic Ocean, absence of moderating influence of water body raises temperatures in summer months, NE trade winds blow over large areas of Asia before reaching the desert hence no source of moisture, high pressure results in descending air therefore no convection/condensation/explanation of Hadley Cell etc.)

[7]

**[Total: 25]**

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- 5 (a) (i)** Starvation/hunger/lose weight/become thin/skinny/die/malnutrition/kwashiorkor/marasmus/stunted growth/development; etc.
- 1 mark [1]
- (ii)** Ideas such as:  
 within tropics;  
 East Africa;  
 South of Sahara;  
 South of Tropic of Cancer;  
 North/East/South Max 1.  
 etc.
- 2 @ 1 mark [2]
- (iii)** Ideas such as:  
 drought;  
 flooding;  
 hurricanes/cyclones/typhoons/storms;  
 pests/locusts;  
 volcanic eruption;  
 earthquakes;  
 tsunami; etc.
- 3 @ 1 mark [3]
- (iv)** Ideas such as:  
 in LEDCs there are many subsistence farmers;  
 MEDCs not as dependent on agriculture/work in factories/tertiary;  
 they import food/can still earn money to buy food;  
 more likely to have stores of food in MEDCs;  
 poor harvest in LEDC will cause poverty/in MEDCs just lower profits;  
 LEDC's can't afford to buy food/new seeds if poor harvest;  
 government has money to invest in agriculture/government has no money to import food;  
 have to rely on aid;  
 etc.
- 4 @ 1 mark [4]
- (b) (i)** overgrazing makes soil bare/arid/wind/rain removes it/without protection/tramples soil;  
 overcultivation removes nutrients from soil/reduces fertility;  
 irrigation makes soil salty;
- 3 @ 1 mark [3]

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- (ii) Ideas such as:  
 contour ploughing/do not plough up and down slopes;  
 smaller herds of animals;  
 shelter belts/tree planting as windbreaks/plant hedgerows;  
 do not leave large areas fallow/leave area fallow;  
 add manure/artificial fertilizers;  
 crop rotation;  
 terracing;  
 etc.

5 @ 1 mark or development

[5]

**(c) Levels marking**

Level 1 (1–3 marks)

Statements including limited detail describing a farming system.  
 (e.g. soil, harvesting, cereal crops)

Level 2 (4–6 marks)

Uses named example.  
 More developed statements describing the chosen farming system.  
 (e.g. deep, fertile soils, harvesting using combine harvester, cereal crops exported for bread making)

Level 3 (7 marks)

Uses named example (e.g. large scale cereal growing in Canadian Prairies).  
 Comprehensive and accurate statements including correct reference to a named area.  
 (e.g. wheat farming in the Canadian Prairies – deep, fertile soils, harvesting using combine harvester, cereal crops exported for bread making.)

[7]

**[Total: 25]**

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6 (a) (i) Contamination of natural environment/discharge of harmful products into it/ideas/examples that damage/contaminate the natural environment;

1 mark [1]

(ii) Ideas such as:  
CO<sub>2</sub> emissions/fumes/gases from exhausts/engines/cars/vehicles;  
noise from engines/vehicles/traffic;  
fuel/oil leaks from boats;  
visual pollution from road cutting through woodland or examples;  
etc.

2 @ 1 mark [2]

(iii) Ideas such as:  
easy/quick to do/convenient;  
it is a cheap method of waste disposal;  
environmental protection regulations in LEDCs are weak/no laws;  
regulations are not enforced;  
economic growth given preference over environment;  
doesn't take up land/less landfill sites;  
etc.

3 @ 1 mark [3]

(iv) Global warming/acid rain/ozone depletion/greenhouse effect; (1 mark reserved);  
release of carbon dioxide/sulphur dioxide/CFC's/aerosols/refridgerants;  
builds up in atmosphere/reacts with water vapour/CFC's build up in atmosphere;  
lets in rays/heat from sun/forms weak acidic solution/removes Ozone;  
greenhouse effect/traps heat/acts like a greenhouse/falls as acid rain/makes a hole in ozone layer;  
deforestation prevents uptake of CO<sub>2</sub>;

NB only credit one idea (i.e. global warming or ozone depletion).

4 @ 1 mark [4]

(b) (i) Ideas such as:  
e.g. airport:  
vegetation destroyed/deforestation;  
ecosystems threatened;  
food chain disrupted;  
loss of habitats/animals forced to leave;  
visual pollution;  
dust from construction;  
noise from construction/traffic/or noise disturbs;  
fumes from aircraft/traffic;  
animals die;  
etc.

e.g. incinerator:  
woodland/scrub/vegetation destroyed/vegetation;  
ecosystems threatened;  
food chain disrupted;

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loss of habitats/animals forced to leave;  
 visual pollution;  
 noise from construction/traffic/or noise disturbs animals;  
 fumes from exhausts/traffic/processing;  
 dust from construction/traffic/processing;  
 animals die;  
 etc.

3 @ 1 mark

[3]

- (ii) Ideas will depend on chosen option (e.g. international airport):  
 restricting size of airport/plane sizes; or DEV  
 avoid building runways on parts of dunes/areas where sensitive species are growing;  
 using local labour;  
 using local materials;  
 do not incorporate water features/fountains at airport;  
 build waste water processing plant for airport/use waste water from airport for water of grounds;  
 etc.

5 @ 1 mark or development

[5]

**(c) Levels marking**

Level 1 (1–3 marks)

Statements including limited detail describing how energy supplies are being developed.  
 (e.g. tidal power, HEP, wind power, wave power, nuclear power, oil fields, coal mines etc.)

Level 2 (4–6 marks)

More developed statements describing how energy supplies are being developed.

(e.g. tidal power is being developed in bays and estuaries/where the tidal range is large; HEP is being developed in mountainous areas with high precipitation; wind power is being developed offshore and in mountainous areas; wave power is being developed where waves are large; new nuclear power stations planned etc.)

Level 3 (7 marks)

Uses named example (e.g. UK).

Comprehensive and accurate statements describing how energy supplies are being developed including some place specific reference.

(e.g. tidal power is being developed in bays and estuaries like the Severn Estuary; HEP is being developed in mountainous areas with high precipitation such as the pumped storage scheme at Dinorwic in Snowdonia; wind power is being developed off the coast of East Anglia and in Morecambe Bay in mountainous areas such as the Pennines etc.). [7]

**[Total: 25]**