CAMBRIDGE INTERNATIONAL EXAMINATIONS

International General Certificate of Secondary Education

MARK SCHEME for the May/June 2013 series

0460 GEOGRAPHY

0460/13 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 May/June 2013 series for most IGCSE, GCE Advanced Level and Advanced Subsidiary Level components and some Ordinary Level components.

1 (a) (i) An area where few people live in a large area/per squ square km/a big area with few people;

1 mark

(ii) A: Sahara Desert, North Africa, Sudan, The Sahel, any N Eastern country; etc.
B: Amazon Rainforest, Andes, Atacama Desert, Australia

2 @ 1 mark

(iii) Ideas such as:
it is an area of temperate, moderate or gentle climate/temperatures are not too hot or cold;
there are good water supplies/sufficient rainfall;
food can be grown/farming is good;
many parts are easily accessible/good infrastructure;
there are many resources (or examples);
there is lots of employment/lots of factories (or examples); etc.
low/flat land; etc.

3 @ 1 mark [3]

(iv) Ideas such as:
pressure on energy supplies (or example);
lack of work;
inadequate food supplies;
poor access to education/not enough…;
poor access to health care/not enough…;
overcrowded housing/not enough housing;
inadequate water supply/sanitation;
overuse of agricultural land/overgrazing;
deforestation/loss of natural vegetation;
lack of space for landfill;
traffic congestion;
high cost of land;
specified pollution problem e.g. air or water pollution (max 2); etc.

4 @ 1 mark [4]

(b) (i) Ideas such as:
mountains/high/steep land/difficult to build on steep slopes;
communications are difficult/roads hard to build on steep slopes/poor infrastructure;
cold climate/snow/long winters;
few areas of farmland/hard to produce food;
isolated/long way from services;
lack of industry/work/employment/jobs;
risk of landslides etc.

3 @ 1 mark [3]

(ii) Ideas such as:
there are some habitable areas in valleys;
especially those areas on valley floors (dev);
some farmers live there;
grazing animals in steep slopes/cultivating valley land (d
some people work in tourist industry;
particularly winter sports/skiing;
some people like tranquillity/quiet;
lack of air/noise/visual/water pollution (dev); (max 1)
mining;
beautiful scenery/natural beauty;
no traffic congestion;
people have always lived there; etc.

5 @ 1 mark or development [5]

(c) Levels marking

Level 1 (1–3 marks)
Statements including limited detail which describe population distribution.

Level 2 (4–6 marks)
Uses named example
More developed statements which describe population distribution and/or a labelled sketch map which shows it.

(NB MAX 5 MARKS WITH NO EXAMPLE)

Level 3 (7 marks)
Uses named example
Comprehensive and accurate statements including a labelled sketch map.

Answers are likely to refer to factors such as:
inland
mountainous
coastal
river valleys
uneven/unevenly spread [7]

[Total: 25]

2 (a) (i) On map

1 mark

(ii) A: Manhattan
B: Queens

2 @ 1 mark

(iii) Ideas such as:
generally relationship is inverse/greater % of very poor households the lower the mean income is;
lowest mean income highest in Bronx $46 000 and highest % in poverty 27%;
anomaly/mean income highest in Manhattan $121 000 but % of very poor households 17% than in Queens/Staten Island etc.

NB can use comparative statements such as higher/highest, lower/lowest if don't use statistics.

3 @ 1 mark [3]

(iv) Ideas such as:
lack of qualifications/skills/education/no experience;
many cannot speak the language;
many are doing low paid jobs;
some are unable to obtain employment/not enough jobs;
thus are unable to buy homes/live in poor conditions/overcrowding;
some may have to live away from their families;
discrimination may occur/racism;
some may have entered illegally;
poor access to services/or examples/cannot afford services or examples;
exploitation by employers;
adjusting to culture;
adjusting to urban life; etc.

4 @ 1 mark [4]

(b) (i) Ideas such as:
smog/poor visibility;
breathing difficulties/asthma/chest complaints/skin/eye irritation;
dirt on washing;
discoloration of statues/stonework/weathering/corroding;
smells;
acid rain/global warming;
tourists put off; etc.

3 @ 1 mark [3]

(ii) Ideas such as:
vehicle exhausts/emissions/cars/traffic;
containing carbon monoxide/sulphur dioxide (dev);
factories/power stations/refineries/industry;
burning coal/oil/fossil fuels;
release smoke/soot/chemicals (dev);

chemical fumes from factories;
smoke from domestic fires;
smoke from burning rubbish;
smoke from nearby forest buyers;
not many trees in cities/trees can help reduce air pollutio

5 @ 1 mark or development

(c) Levels marking

Level 1 (1–3 marks)
Statements including limited detail describing the main features of either inner city, outer suburbs or rural-urban fringe.

Level 2 (4–6 marks)
Uses named example
More developed statements describing the main features of either inner city, outer suburbs or rural-urban fringe.

(NB MAX 5 MARKS WITH NO EXAMPLE)

Level 3 (7 marks)
Uses named example
More developed statements describing the main features of either inner city, outer suburbs or rural-urban fringe, including some place specific reference.

Answers are likely to refer to factors such as:
housing
industry
open space
services
transport [7]

[Total: 25]

3 (a) (i) 9C

1 mark

(ii) A: maximum/minimum/wet bulb/dry bulb temperature;
precipitation/air pressure/relative humidity/wind directi
B: cloud type/cover or amount/wind direction

2 @ 1 mark

(iii) Ideas such as:
use a wet and dry bulb thermometer or hygrometer;
use relative humidity table/chart;
work out depression of wet bulb (2)/subtract wet bulb from dry bulb (8–6);
read off figure at intersection of dry bulb and wet bulb depression figures (where 8 and 2 intersect) etc.

Accept: digital (1)
hygrometer (1)
read off figure displayed (1)

3 @ 1 mark [3]

(iv) Ideas such as:
reflect sun's rays/so they are not heated by the sun/thermometers in shade;
so that air flows gently around them/they are not affected by the wind/air circulates within the screen;
so they measure condition of air not ground;
so they are not sheltered or shaded by trees/buildings;
so they are not affected by concrete;
to avoid tampering/damage;
protects instruments from rain; etc.

4 @ 1 mark [4]

(b) (i) Ideas such as:
high temperatures/25–26 °C/hot;
constant temperatures/low or small temperature range;
wet/high annual rainfall/1700 to 1900 mm;
rainfall all year;
rainfall fluctuates;

If refer to months for rainfall must refer to at least 2 months e.g. lowest and highest; etc.

3 @ 1 mark [3]

(ii) Ideas such as:
high temperatures due to position on Equator;
which results in high angle of sun's rays/closer to sun/heat is concentrated in a small area (dev);
small annual range of temperature due to constant overhead sun;
wet climate due to convectional rainfall;
large amounts of evaporation;
and transpiration from abundant vegetation (dev);

ascending air results in convection/cooling/condensation;
low pressure; etc.

5 @ 1 mark or development

(c) Levels marking

Level 1 (1–3 marks)
Statements including limited detail explaining why deforestati

Level 2 (4–6 marks)
Uses named example

(NB MAX 5 MARKS WITH NO EXAMPLE)

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

Answers are likely to refer to factors such as:
lumbering
mining
road building
settlements
farming [7]

[Total: 25]

4 (a) (i) earthquakes and volcanoes
the moving of the earth's surface
moving of plates; etc.

1 mark

(ii) A: South American and Nazca/Pacific and Eurasian/Philli
B: African and South American/Eurasian and North Australian;

2 @ 1 mark [2]

(iii) Ideas such as:
distribution is uneven;
along plate boundaries/margins;
eg. down centre of Atlantic Ocean/Pacific Ring of Fire/western coast of the Americas/Himalayas/southern Europe/South East Asia; (max 2) etc.

2 @ 1 mark [2]

(iv) Ideas such as:
they are closer to plate boundaries;
plate boundaries are lines of weakness;
plates are moving at either side/moving apart/subduction occurs/convergence occurs;
and creating magma/destroying crustal material/melting rock/heats rock;
build up of pressure at these points;
so magma may be forces to reach the surface; etc.

4 @ 1 mark [4]

(b) (i) Ideas such as:
fires;
damage to roads/freeways/roads blocked;
collapse of buildings;
people killed/injuries;
damage to bridges/collapse of bridges;

3 @ 1 mark [2]

(ii) Ideas such as:
better quality of buildings/build stronger buildings;
built using 'earthquake proofing' or examples (max 2) e.g. computer controlled, counter weights, shock absorbers in foundations;
better evacuation procedures;
better education re: precautions such as drills (dev);
higher level of medical care;
better technology/more money for recovery;
more/better emergency supplies available;
more/better rescue teams trained; etc.

5 @ 1 mark or development [5]

(c) Levels marking

Level 1 (1–3 marks)
Statements including limited detail describing causes of an ea

Level 2 (4–6 marks)
Uses named example
More developed statements describing impacts of an earthqu

(NB MAX 5 MARKS WITH NO EXAMPLE)

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

Answers are likely to refer to factors such as:
plate movements
friction
pressure build up
pressure released [7]

[Total: 25]

5 (a) (i) sugar beet

1 mark

(ii) molasses;
dried pulp;
lime;

2 @ 1 mark

(iii) Packaging sugar: Secondary
Growing sugar beet: Primary
Driving lorries: Tertiary

3 @ 1 mark [3]

(iv) Ideas such as:
uses large quantities of raw materials/heavy or bulky raw materials;
raw materials are more bulky than finished products;
weight is lost in processing;
low transport costs;
finished products delivered nationwide/market is not just in one area so location next to it is impossible;
finished product is not perishable/raw material is perishable;
land is cheaper; etc.

4 @ 1 mark [4]

(b) (i) Ideas such as:
big/tall/large buildings/buildings of varying heights;
mixed ages/varying ages of buildings;
chimneys;
storage tanks/cylindrical tanks/towers;
varying buildings materials or examples; etc.

3 @ 1 mark [3]

(ii) Ideas such as:
atmospheric pollution/smoke from factory/or example of gas e.g. CO_2;
exhaust fumes from lorries;
pollution of rivers/groundwater;
deforestation/clearance of natural vegetation/plants killed;
kills animals/scares animals away;
(impact on) ecosystems/food chains damaged;
acid rain;
loss of habitat;
ground pollution/chemicals seeping into rock;

5 @ 1 mark or development [5]

(c) Levels marking

Level 1 (1–3 marks)
Statements including limited detail explaining the factor technology industries.

Level 2 (4–6 marks)
Uses named example
More developed statements describing explaining the fact technology industries.

(NB MAX 5 MARKS WITH NO EXAMPLE)

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

Answers are likely to refer to factors such as:
transport
environment
cost of land
proximity to universities for research
workers
availability of land/space [7]

[Total: 25]

6 (a) (i) North America/Europe

1 mark

(ii) In correct order:
North America
South America
Africa

2 marks if all 3 correct
1 mark if there is one error [2]

(iii) Ideas such as:
as importing energy is very expensive/prices of oil are rising or fluctuating;
to reduce import bills/improve balance of payments;
too dependent on other nations/need to become more independent/so they are encouraged to produce more of their own energy;
in order to be able to still have energy supplies in case of war/political disputes;
trying to develop/increase renewable energy sources; etc.

3 @ 1 mark [3]

(iv) Ideas such as:
HEP possible in some mountainous areas/on rivers/areas of high precipitation;
wind power is possible in mountainous/offshore areas/by building wind turbines;
wave/tidal possible in coastal areas;
solar power where there is plenty of sunshine/by using solar panels in their roofs;
geothermal power in volcanic areas/by sending water down into hot rocks; etc.

1 mark MAX for simple list of 2 or more renewable energy types

4 @ 1 mark [4]

(b) (i) Ideas such as:
emissions of greenhouse gases;
carbon dioxide/sulphur dioxide;
responsible for global warming;
ice caps melt;
acid rain; etc.

3 @ 1 mark [3]

(ii) Ideas such as:
near coalmines/coalfields;
to reduce transport costs of coal (dev);
bulky fuel to transport (dev);
availability of water/close to river/lake;
for use in cooling processes (dev);
rail/road transport;
for coal deliveries/taking waste away (dev);
lots of or plenty of land/room/open space;
for large building/high generating capacity (dev);
solid foundations;
due to weight of power station/cooling towers (dev);

close to of population;
for a workforce;
flat land;
cheap land; etc.

5 @ 1 mark or development

(c) Levels marking

Level 1 (1–3 marks)
Statements including limited detail describing problems of use of fuelwood for people and/or natural environment.

Level 2 (4–6 marks)
Uses named example
More developed statements describing problems of use of fuelwood for people and/or natural environment.

(NB MAX 5 MARKS WITH NO EXAMPLE)

Level 3 (7 marks)
Uses named example
Comprehensive and accurate statements describing problems of use of fuelwood for people and natural environment, including some place specific reference.

Answers are likely to refer to factors such as:
local atmospheric pollution
time take to collect wood
health problems
deforestation
soil erosion [7]

[Total: 25]