MARK SCHEME for the May/June 2008 question paper

0460 GEOGRAPHY

0460/01   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.

All Examiners are instructed that alternative correct answers and unexpected approaches in candidates' scripts must be given marks that fairly reflect the relevant knowledge and skills demonstrated.

Mark schemes must be read in conjunction with the question papers and the report on the examination.

*   CIE will not enter into discussions or correspondence in connection with these mark schemes.

CIE is publishing the mark schemes for the May/June 2008 question papers for most IGCSE, GCE Advanced Level and Advanced Subsidiary Level syllabuses and some Ordinary Level syllabuses.

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 the wording on a script where a mark has been allowed. Where a development point has been allowed the letter 'D' should be placed adjacent to the tick. The number of ticks should always be equal to the total number of marks awarded, the mark for each sub-section should be added up and placed in the margin at the end of the sub-section. The total mark for the entire question should be added and transferred to the front of the script.

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).

Levels of response marking is used for section (c) of each question.
Thus it is the quality of the response which 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 (for 6 marks), and if the answer is place specific as well (7 marks).

Where statements are assigned levels by the examiner this should be indicated by the use of L1, L2 and L3 next to the statements. A summary of the overall level and mark awarded should be written at the end of the answer. Ticks should **not** be used on answers which are marked using levels of response marking.

Summary:

Level 1 (1 to 4 marks):
1 simple statement (1 mark)
2 simple statements (2 marks)
3 simple statements (3 marks)
4 or more simple statements (4 marks)

Level 2 (3 to 5 marks):
1 developed statement (3 marks)
2 developed statements or 1 developed statement + 2 or more simple statements (4 marks)
3 or more developed statements or 2 developed statements + 2 or more simple statements (5 marks)

Level 3 (6 or 7 marks)
3 or more developed statements (or 2 developed statements + 2 or more simple statements) + named example (6 marks)
3 or more developed statements (or 2 developed statements + 2 or more simple statements) with at least one piece of place specific detail + named example (7 marks)

All answers, whether marked by point marking or levels, should have signs of having been assessed by the examiner. Crosses are acceptable to signify wrong answers and a red line accompanied by the letters 'I/R' should be used to indicate those which are irrelevant.

1 (a) (i) The north/20 °N or higher/North of Timbuktu/north of 100 mm isohyet/any correct latitude and longitude coordinates
1 mark [1]

   (ii) Features such as:
   areas with over 400 mm rain/higher rainfall;
   south (west) of country;
   between 10–15 (18) degrees N
   close to river (Niger);
   in or around urban areas (or named egs)/close to airport etc.
   2 @ 1 mark [2]

   (iii) Ideas such as:
   variations in water supply/the south has more water than the north;
   thus lack of domestic/agricultural water supply in some areas (dev);
   possible variations in terrain/the valley of the river Niger is an attractive area to settle;
   as it may offer the best land to build settlements (dev)
   communications (dev) most fertile land (dev)
   some areas may be better served by communications/airport;
   southern parts have more opportunities for trade; as they are closer to boundaries of more countries (dev)
   rural urban migration/urbanisation; because there are better health facilities or other pulls/pushes (dev)
   variation in natural resource availability etc.
   3 @ 1 mark or development [3]

   (b) (i) BR – DR/46.77 minus 19.05 (1st mark)
   plus or minus net migration/–0.33 (2nd mark)
   Correct calculation = 27.39 (3rd mark)
   3 @ 1 mark [3]

   (ii) Ideas such as:
   little availability of/no contraception;
   not educated about contraception;
   not likely to be able to afford contraception;
   likely to want children to work on the land;
   likely to want children to send out to earn money;
   likely to want children to look after parents in old age;
   not likely to be affected by government policy to reduce family size;
   likely to have large families due to tradition/sign of virility/wanting a boy;
   likely to have large families due to religious influences;
   early marriage;
   women not educated/lack of female emancipation/women do not have careers;
   widespread prostitution;
   high infant mortality etc.
   4 @ 1 mark or development [4]

(iii) Maximum of 4 marks on describe/suggest reasons:
Describe:
Rising up to 2002;
Decline from 2002 (or over whole period);
Further 2 MAX for use of statistics (e.g. overall drop of 1.57 from 2000 to 2005)

Reasons such as:
better treatment of diseases/or examples (up to 2002);
improved health care facilities/or examples (up to 2002);
investment in care homes/services for elderly (up to 2002);
improved diet/increased food production (up to 2002);
better water supply/sanitation (up to 2002);
impact of AIDS (2002 onwards);
(civil) war (2002 onwards);
drought (2002 onwards) etc.
5 @ 1 mark or development   [5]

(c) Levels marking

Level 1 (1-4 marks)
Statements including limited detail which suggest reasons for international migration.
(e.g. more/better jobs, better services, not enough food, war, drought etc.)

Level 2 (3-5 marks)
More developed statements which explain reasons for international migration.
(e.g. more jobs in destination country where they can work in service sector/factories, greater access to schools/hospitals/clinics, can buy food from shops rather than rely on unproductive farmland, refugees fleeing from war torn areas in fear of their lives, drought prevents them from producing enough food to feed their families etc.)

Level 3 (6-7 marks)
Uses named example (e.g. Turkey to Germany).
Comprehensive and accurate statements including some place specific reference.
(e.g. more jobs in Germany where they were employed in rebuilding cities like Dresden after World War 2, greater access to schools/hospitals/clinics than in remote mountainous areas of Turkey, refugees fleeing from war-torn areas close to Iraqi border in fear of their lives, drought in regions such as central Anatolia prevents them from producing enough food to feed their families etc.)

[7]

[Total: 25]

2 (a) (i) Central Business District
1 mark   [1]

(ii) One mark for a similarity and one for a difference.
Similarities such as both:
are on edge of city/away from centre;
are close to A roads/within easy reach of motorway/M1;
Differences such as;
Meadowhall is closer to centre (in urban area)/Crystal Peaks is in a more rural location;
Meadowhall is closer to motorway;
Meadowhall is further north;
Meadowhall near river/Crystal Peaks is not etc.
2 @ 1 mark   [2]

(iii) Ideas such as:
low cost land in rural area;
plenty of space in rural area; for large car parks/expansion (dev)
proximity to urban area for large numbers of customers;
'A' road/motorway provides easy access for customers/delivery;
away from congested area in CBD etc.
3 @ 1 mark or development   [3]

(b) (i) Photograph A = village
Photograph B = city
Photograph C = town
3 @ 1 mark   [3]

(ii) Ideas such as:
a diagram showing the size/importance of settlements/services/an arrangement of
    settlements by rank order;
in any area there will be more low order settlements/villages than high order/cities;
more services/variety of services are found in larger settlements/high order than small
    ones/low order;
high order services in cities/high order settlements
high order settlements/cities have a larger sphere of influence;
high order settlements/cities have a larger threshold population etc.
4 @ 1 mark   [4]

(iii) Ideas such as:
people will travel further for higher order services;
people will travel to buy specialist goods (or examples);
people travel further to buy comparison goods rather than convenience goods;
some services are likely to be used less/more frequently than others;
some centres offer more shops/wider range/opportunity to shop around/get cheaper
    prices;
people travel further for some services to seek better quality;
some services may have a larger sphere of influence;
some people live in settlements with fewer services than other people/people who live in
    villages have further to travel than city dwellers for many services etc.
(5 x 1 or development)   [5]

(c) Levels marking

Level 1 (1-4 marks)
Statements including limited detail on likely effects on people or environment as a result of urban sprawl.
(e.g. traffic congestion, loss of farmland, atmospheric pollution)

Level 2 (3-5 marks)
More developed statements on likely effects on people or environment as a result of urban sprawl.
(e.g. traffic congestion as many people who live in new developments commute to work in CBD, loss of farmland due to new housing developments/road construction, atmospheric pollution from increased traffic etc.)

Level 3 (6-7 marks)
Uses named example (e.g. Nottingham).
Reference to effects on both people and environment of urban sprawl, including some place specific reference.
(e.g. traffic congestion on radial roads into city as many people who live in villages like Burton Joyce commute to work in the city, loss of farmland around Papplewick village due to new housing developments, atmospheric pollution from increased traffic along A60 etc.)

[7]

[Total: 25]

3 **(a)** **(i)** 210–220 mm

1 mark [1]

(ii) Highest temperature minus lowest temperature/34 – 8 °C (1 mark)

= 26 °C (2nd mark)

2 @ 1 mark [2]

(iii) Ideas such as:

in USA;

south/west/south west USA;

close to border with Mexico;

in state of California/Nevada/Utah/Arizona

SE California;

SW Utah;

NW Arizona

S Nevada

3 @ 1 mark [3]

(iv) Candidates should explain why deserts are hot and dry rather than simply describing their climatic features. Credit written answers or information included as part of labelled diagrams or sketch maps (do not double credit here). Expect reference to ideas such as:

distance from oceans;

absence of moderating influence of water body

wind direction/trade winds;

blow over large areas of land hence no source of moisture;

lack of evaporation;

absence of cloud cover therefore hotter;

influence of overhead sun;

high pressure;

rain shadow etc.

NB MAX of 3 marks on each of hot/dry

4 @ 1 mark or development [4]

(b) **(i)** Features should be evident from photographic evidence. Ideas such as:

scattered/sparse/not much vegetation/some area without vegetation;

shrubs/bushes;

cacti;

plants with narrow/spiky leaves;

little variety of vegetation etc.

3 @ 1 mark [3]

(ii) Ideas such as:

low precipitation/aridity results in scattered/sparse vegetation;

seeds/plants remain dormant during long dry spells;

narrow/spiky leaves reduce rates of evapotranspiration/because of high temperatures;

long roots/wide spreading roots search for water;

some plants/cacti store water in order to survive long periods of drought etc.

5 @ 1 mark or development [5]

(c) Levels marking

Level 1 (1-4 marks)
Statements including limited detail explaining how or why the area is at risk from human activities.
(e.g. trees are being chopped down, the area is used for farming, resources are mined in the area, animals are killed, it causes floods, it washes soil away, it makes the land bare etc.)

Level 2 (3-5 marks)
More developed statements explaining how or why the area is at risk from human activities.
(e.g. trees are being chopped down to export hardwoods, minerals such as copper are extracted from the area from opencast mines, the area is used for commercial farming and soils are exhausted, it kills animals threatening species with extinction, impacts on food chain, loss of habitat reduces variety of species, reduces interception therefore increasing run off and causing floods etc.)

Level 3 (6-7 marks)
Uses named example (e.g. Amazonia).
Comprehensive and accurate statements explaining how and why the area is at risk from human activities, including some place specific reference.
(e.g. in Amazonia 1000s of species in the state of Mato Grosso are threatened with extinction; trees are being chopped down to transport down river from settlements like Manaus for export; raw materials such as iron ore are extracted from the opencast mines such as the Carajas mine; loss of habitat in marshy areas alongside River Amazon, reduces interception increasing runoff; causes floods as soil is washed into River Amazon and its tributaries, reduces soil fertility etc.)

[7]

[Total: 25]

4 **(a)** **(i)** Mountains formed from crust/rocks/strata which has been uplifted
1 mark [1]

(ii) A = Andes
B = Himalayas
2 @ 1 mark [2]

(iii) A = African/South American; Eurasian/North American;
Antarctic/Pacific; Nazca/Pacific
B = South American/Nazca; Eurasian/Pacific;
C = North American/Pacific
3 @ 1 mark [3]

(iv) Credit written answers or information included as part of labelled diagrams or sketch maps (do not double credit here). Expect reference to ideas such as:
plates move towards each other;
two continental plates or an oceanic and a continental plate;
Same density therefore no subduction (for continental/continental)
OR oceanic heavier therefore subduction (for continental/oceanic);
layers of sediment/sedimentary rock accumulate/forms geosyncline;
crust/rocks get bent and crumpled/into a series of folds;
layers of Earth's crust gets uplifted as a result;
they are usually found along the edges of continents where the thickest deposits of sedimentary rock accumulate etc.
4 @ 1 mark or development [4]

(b) In each of parts A and B, credit written answers or information included as part of labelled diagram (do not double credit here).

Expect reference to ideas such as:

A   plates diverge;
gap/line of weakness created;
magma emerges through gap;
lava solidifies to form volcanoes etc.
3 @ 1 mark or development [3]

B   plates converge;
subduction of one plate (oceanic);
greater density of oceanic plate;
friction/heating;
destruction of oceanic plate/turns to magma/melts;
build up of magma/pressure;
magma rises through lines of weakness;
lava solidifies to create volcano etc.
5 @ 1 mark or development [5]

(c) Levels marking

Level 1 (1-4 marks)
Statements including limited detail explaining why people live in an area where they face
    natural hazards.
(e.g. soils are fertile; they can get hot water/electricity from the volcano; the volcano attracts
tourists; the volcano provides raw materials; they have lived there all their lives; they are
close to family/friends; they work in the area; they cannot afford to move; they are willing to
take the risk etc.)

Level 2 (3-5 marks)
More developed statements explaining why people live in an area where they face natural
    hazards.
(e.g. soils are fertile and yields of crops are high; they can generate electricity from the
volcano using geothermal power; the volcano attracts tourists and they can get jobs as tour
guides; the volcano provides raw materials such as sulphur; they are confident in prediction
and willing to take the risk etc.)

Level 3 (6-7 marks)
Uses named example (e.g. Mt Etna volcano).
Comprehensive and accurate statements explaining why people live in an area where they
    face natural hazards, including some place specific reference.
(e.g. The fertile volcanic soils support extensive agriculture with vineyards and orchards
spread across the lower slopes of the mountain and the broad Plain of Catania to the south.;
they can generate electricity from the volcano using geothermal power; the volcano attracts
tourists and residents of nearby Messina and Catania earn money from renting
accommodation to tourists; the Italian government have invested money in prediction and
they are willing to take the risk etc.)

[7]

[Total: 25]

5 **(a)** **(i)** Keeping of animals (on farms)
1 mark   [1]

(ii) A   Waikato/Taranaki
B   Hawke's Bay/Manawatu-Wanganui/Wellington/Southland
2 at 1 mark   [2]

(iii) Ideas such as:
in Taranaki less sheep are kept per sq km than in Hawke's Bay;
in Hawke's Bay more beef cattle are kept per sq km than in Taranaki;
in Taranaki more dairy cattle are kept per sq km than in Hawke's Bay;
in Hawke's Bay beef cattle are most important but in Taranaki dairy cattle are most important
3 @ 1 mark   [3]

(iv) Ideas such as:
many parts of south island have an annual precipitation of over 2000mm; which could cause waterlogging of pastures (dev)
North island has milder/warmer (winter) temperatures;
so grass will grow all year round (dev);
animals can be grazed outside all year (dev);
many parts of south island are mountainous; therefore slopes could be too steep for cattle (dev);
soil/grass quality poor etc.;
4 @ 1 mark or development   [4]

(b) **(i)** Ideas such as:
unevenly distributed/clustered;
more on North Island;
mainly in coastal areas;
and near main cities (or examples)
especially on east coast of south island etc.
3 @ 1 mark   [3]

(ii) Ideas such as:
proximity to areas producing meat products/pastoral farms;
to reduce costs of transport (dev);
as meat is perishable (dev);
close to main markets in cities;
where there is a larger labour force (dev)
close to ports for export of produce etc.
5 @ 1 mark or development   [5]

(c) Levels marking

Level 1 (1-4 marks)
Statements including limited detail describing benefits to people and/or threats to natural environment of chosen activity (e.g. manufacturing industry)
(e.g. creates jobs, causes air pollution, benefits other businesses in the area, causes more traffic etc.)

Level 2 (3-5 marks)
More developed statements describing benefits to people and/or threats to natural environment of chosen activity.
(e.g. creates jobs ensuring people have regular income, causes air pollution thus asthmatics have difficulty breathing, multiplier effect on other businesses in the area, causes more traffic especially heavy lorries increased noise levels for residents etc.)

Level 3 (6-7 marks)
Uses named example (e.g. manufacturing industry in Cubatão in São Paulo State, Brazil).
Comprehensive and accurate statements describing benefits and threats to people and natural environment of chosen activity, including some place specific reference.
(e.g. Latin America's biggest petrochemical complex creates jobs ensuring people who have migrated from rural areas have regular income; multiplier effect on other businesses in the area, causes more traffic especially heavy lorries increased noise levels for residents; fumes from industries such as a fertiliser factory/a cement works/there are about 30 major industrial facilities in the vicinity; 473 tonnes a day of carbon monoxide; 182 tonnes a day of sulphur; 148 tonnes of polluted dust and particles; 41 tonnes of nitrogen oxide; the infant mortality rate is significantly higher than anywhere else in the country; about 8% of all children born in the area suffer from abnormalities such as spinal problems and missing bones; 44% of the Vila Parisi population have some kind of lung disease; no local smoke control regulations etc.)

[7]

[Total: 25]

6 (a) (i) Romania

1 mark [1]

(ii) Generally positive relationship/higher GDP per capita greater percentage have access to safe water (1st mark reserved);

Either two countries with accurate figures for illustration

or reference to anomaly/e.g. China much higher percentage safe water than expected for GDP;

2 @ 1 mark [2]

(iii) Answer does not need to be comparative as comments about a country with a high percentage of safe water implies a comparison. Expect reference to ideas such as:

amount of precipitation;

evaporation levels/temperatures;

level of development of water supply infrastructure/dams/reservoirs/pipes/taps;

ability to treat/recycle water;

development of sewage/sanitation infrastructure;

population density;

presence/absence of rivers/natural lakes;

presence/absence of water bearing rocks/aquifer;

levels of pollution;

being able to afford to import water etc.

3 @ 1 mark [3]

(iv) Ideas such as:

the body needs water/cannot function without water;

otherwise dehydration occurs (dev);

reduction of water-borne diseases;

such as cholera, typhoid etc. (dev),

leads to improvement of hygiene;

lack of water can cause the body to become weak/having access to water keeps people healthy;

therefore unable to work in order to produce food/earn money/walk long distances for fuel (dev);

more water for irrigation for use in agriculture;

is likely to increase yields of crops/produce more food (dev) etc.

4 @ 1 mark or development [4]

(b) (i) Ideas such as:
long lasting drought/low rainfall;
lack of dams/reservoirs/dependence on wells;
large demand from tourist industry
water is wasted
3 @ 1 mark   [3]

(ii) Methods such as:
dam/reservoir/pipeline building;
desalination plants;
more boreholes/wells;
cloud seeding;
rationing;
increase cost of water;
cover wells;
afforestation;
treatment plants/use grey water/recycling;
import water etc.
specific examples of water conservation methods to max 2;
5 @ 1 mark or development   [5]

(c) Levels marking

Level 1 (1-4 marks)
Statements including limited detail explaining why tourism has developed in an area,
     referring to physical and/or human attractions.
(e.g. a hot climate; scenic beauty; beaches; tropical vegetation; Interesting culture; historical
buildings etc.)

Level 2 (3-5 marks)
More developed statements explaining why tourism has developed in an area, referring to
     physical and/or human attractions.
(e.g. a hot climate with summer average temperatures at least 25 °C; sandy beaches; clear
blue seas; tropical vegetation with palm trees; historical buildings such as cathedrals etc.)

Level 3 (6-7 marks)
Uses named example (e.g. Mallorca).
Comprehensive and accurate statements explaining why tourism has developed in an area,
     referring to physical and human attractions, including some place specific reference.
(e.g. a Mediterranean climate with hot, dry summers with average temperatures at least
25 °C and mild winters with no frost and snow; sandy beaches at resorts like Alcudia;
historical buildings such as the cathedral at Palma; theme parks/water parks etc.)

                                                                                   [7]

                                                                          [Total: 25]