**UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS**

**GCE Ordinary Level**

# MARK SCHEME for the May/June 2010 question paper

# for the guidance of teachers

# 2217 GEOGRAPHY

**2217/13** Paper 13 (Geographical Themes), 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.

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

CIE is publishing the mark schemes for the May/June 2010 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 –his/her answer should have a clear example, and the answer must be place specific as well. (7 marks – L3).

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.

**1** **(a) (i)** Divide population by area/number of people divided by area/or written as a for[...]

1 mark

**(ii)** **A** Africa/Europe/North America/South America/Oceania/America(s)

**B** Asia

2 @ 1 mark [2]

**(iii)** Ideas such as:
aridity/lack of precipitation/lack of rainfall/dry;
no drinking water/dehydration/difficult to survive without water (it is a basic need);
(no water) to irrigate crops/can't irrigate crops/maintain good pasture/keep cattle/difficult to farm/food production is difficult/yields are low;
poor soils/sand/bare rock/infertile soil;
deserts are poorly served by communications/isolated/poor road networks/lack of transport;
few economic opportunities in most deserts/lack of jobs/lack of resources;
high temperatures which lead to high evaporation rates so no water; etc

3 @ 1 mark [3]

**(iv)** Ideas such as:
Around an oasis;
Around rivers where they flow through arid areas;
Mining settlement/production of oil/gas (any mineral or resource);
Growth of tourist resorts;
Towns of strategic importance;
Market town; etc

4 @ 1 mark  or development [4]

**(b) (i)** Ideas such as:
In coastal area/on the coast/near the sea;
In south/south east/north east (regions);
In clusters;
In the East (of the country);
In a line;
Correspond with towns and cities; etc

3 @ 1 mark [3]

(ii) Reasons such as:
differences in relief;
high lands are not densely populated; difficult to build (dev);for communications (dev)
less than 200 metres sparsely populated;
possible flood risks (dev);
differences in precipitation;
areas above 2000 mm rain sparsely populated;
as this creates rainforest (dev);
difficult to penetrate (dev);
coastal location encourages trade;
thus development of industry/settlement/tourism (dev) etc

5 @ 1 mark or development [5]


(c) Levels marking

Level 1  (1–3 marks)
Statements including limited detail explaining why the government is worried by rapid population growth.
(e.g. people do not have enough resources, lack of work, inadequate
food supplies, poor access to education, poor access to health
care, overcrowded housing, traffic congestion, atmospheric
pollution, inadequate water supply/sanitation, overuse of
agricultural land/overgrazing, deforestation/loss of natural
vegetation etc)

Level 2  (4–6 marks)
Uses named example
More developed statements explaining why the government is worried by rapid population growth.
(e.g. lack of work which leads to poverty, inadequate food supplies which cause death by starvation/malnutrition, poor access to education so people remain unqualified, poor access to health care leads to high death rates, overcrowded housing with inadequate basic amenities etc)

(NB max 5 if no named example)

Level 3  (7 marks)
Uses named example (e.g. Bangladesh).
Comprehensive and accurate statements explaining why the government is worried by rapid population growth, including some place specific reference.
(e.g. lack of work which leads to poverty/many people living on streets in cities like Dhaka, inadequate food supplies which cause death by starvation/malnutrition, poor access to education so people remain unqualified, traffic congestion as there are far too many vehicles on the roads especially in cities such as Dhaka, overuse of agricultural land on floods plains of Brahmaputra/Ganges leads to loss of soil fertility/lower yields, widespread deforestation for firewood on slopes of rural land around Chittagong encourages soil erosion etc) [7]

NB: Example must be LEDC/NIC


[Total: 25]

**2 (a) (i)** 12 million/11.8 million (Must state million)

1 mark

**(ii)** Mumbai…. (New) Delhi… Bangalore... Lucknow

2 marks for all 4 in correct positions
1 mark for 2/3 in correct positions

2 marks [2]

**(iii)** Ideas such as:
inadequate housing stock/not enough houses;
rapid increase of population/lots of migrants;
lack of local authority investment/Government can't afford;
poverty of people/cannot afford to buy houses/unemployed/working for low wages;
able to build them themselves; etc

3 @ 1 mark [3]

**(b) (i)** Amenities such as:
water tank on roof/piped water/running water/taps/clean water/showers;
electricity/lights;
sanitation/sewage disposal/toilets;
refuse collection/disposal;
clinics/hospitals/send doctors or nurses;
schools/education/training/skills;
improved roads/communications/(building) public transport; etc

3 @ 1 mark [3]

**(ii)** Ideas such as:
it is extreme/harsh/against human rights/cruel/forced to move/forced out of homes;
encourage violence/resentment/rioting;
displaced people will have nowhere to live;
lose all possessions/belongings;
they will build squatter settlements elsewhere/live on streets;
it does not solve the problem long term;
it will be very expensive/funds could be put to more
constructive use/some people think it is a waste of money;
strong community spirit is lost;
reflects badly on government or country; etc

4 @ 1 mark [4]

(iii) Ideas such as:
it will solve the problem in the long term;
as the rural areas will become more attractive places to live (dev);
less people will move to the cities;
as they will be able to increase output of food (dev)/more food(dev);
and sell produce (dev);
thus bringing in money to rural areas(dev);
it may encourage people from cities to move back to rural areas;
which will trigger development (dev); etc

5 @ 1 mark or development                                                    [5]

NB: No marks for disadvantages of plans 1 and 2.

**(c)** Levels of response marking
Level 1   (1–3 marks)

Statements including limited detail which explain reasons for rural to urban migration, **either** pulls **or** pushes.

(e.g. more jobs, better services, not enough food, better standard of living/quality of life, poverty, better housing, better schools, better healthcare etc)

Level 2   (4–6 marks)
Uses named example (must have 1 example)
More developed statements which explain reasons for rural to urban migration, **either** pulls **or** pushes.

(e.g. more jobs in the informal sector/factories/or examples, well paid jobs, greater access to **range of** services or examples such as schools/hospitals/clinics, can buy food from markets/shops, housing with electricity/gas; etc)

NB Max 5 if no named example

Level 3   (7 marks)

Uses 2 named examples.  (e.g. Caatinga to Rio de Janeiro)
Comprehensive, accurate statements, referring to **both** pulls and pushes.

(e.g. some farmland in Caatinga unproductive due to drought, people living in countryside lost best quality agricultural land by Sao Franciso river when reservoirs were been built, they can make money in informal sector by offering shoe shine/selling fruit on Copacabana Beach, the city offers hope e.g. basic concrete houses are being built with piped water and sewage pipes, even in the favelas such as Rocinha the people have better access to primary health care than in the countryside)

NB: Must refer to both pulls and pushes for L3.                              [7]

[Total: 25]

**3 (a) (i)** 34 – 35

1 mark

**(ii)** Ideas such as:
(Bare) rock surface/sandstone/resistant rock;
May have rock pools;
May be covered with seaweed;
Exposed at low tide/covered at high tide;
Remains of former cliff base/at foot of cliff;
Flat/gently sloping;
Smooth; etc

2 @ 1 mark [2]

**(iii)** Differences such as:
More sand at Y/less sand at X;
More shingle at X/less shingle at Y;
More pebbles at X/less pebbles at Y.

3 @ 1 mark [3]

**(iv)** Ideas such as:
swash in direction of predominant wind;
moves materials at (oblique) angle;
backwash at right angle/90°/straight back to sea;
materials move in zig-zag fashion; etc

4 @ 1 mark [4]

**(b) (i)** Features such as:
Bay;
Beach;
Cliffs;
Landslip;
Headland;
Wave cut platform; etc

3 @ 1 mark [3]

**(ii)** Ideas such as:
e.g. Bay:
Features are formed by either erosion or deposition;
outcrop of less resistant rock/weak rock/soft rock;
eroded rapidly by sea;
differential erosion occurs/hard rock erodes more slowly than soft rock(dev);
by processes such as hydraulic action/abrasion etc (dev);
e.g. beach
formed by constructive waves;
stronger swash than backwash;
materials deposited;
materials build up over time (dev);
refraction of waves in bay (dev); etc

MAX 4 on any one feature

5 @ 1 mark or development                                                          [5]


**(c)** Levels marking

Level 1   (1–3 marks)
Statements including limited detail describing benefits and/or problems of living near the coast.
(e.g. fishing, tourism, ports, storms, coastal erosion, need to build bridges; etc)

Level 2   (4–6 marks)
Uses named example
More developed statements describing benefits and/or problems of living near the coast.

(e.g. ports can be set up and people make a living from inshore/deep sea fishing, tourism industry can be established giving jobs in hotels, ports grow up and industries will be attracted there to use the raw materials imported/export finished products, storms can damage housing/cause coastal flooding, coastal erosion can cause collapse of cliff top buildings, need to bridge/detour around estuaries; etc)

NB Max 5 if no named example

Level 3   (7 marks)
Uses named example (e.g. Californian coast).
Comprehensive and accurate statements describing benefits and problems of living near the coast, including some place specific reference.
(e.g. ports like Monterrey have grown up and people make a living from inshore/deep sea fishing, tourism industry has been established in San Francisco giving jobs in the restaurants along the Old Fisherman's Wharf, Oakland is a major port dealing with container traffic from Japan, Hong Kong and China, storms can damage housing/cause coastal flooding, coastal erosion can cause collapse of cliff top buildings in Cambria, need to bridge estuaries by Golden Gate Bridge etc)                                                          [7]

NB: Annotate 'b' for benefits and 'p' for problems.

[Total: 25]

**4 (a) (i)** Weather is the condition of the atmosphere at a specific time/day to day, climate is average/what is expected at different times of year /yearly conditions.

1 mark

**(ii)** Similarities such as:
Both are found in Africa/South America;
Both are found between the tropics etc

Differences such as:
Rainforests are found around equator, deserts around tropics (of Capricorn/Cancer)/ deserts are further away from equator;
deserts on western sides of land masses, rainforests across the continents;
rainforests found on islands, deserts are not;
North America/Australia have deserts but no rainforest; etc

NB: Annotate ✓s and ✓d

2 @ 1 mark                                                                                                    [2]

**(iii)** Ideas such as:
high pressure in deserts;
descending air in deserts;
dry winds/trade winds blow to deserts/across Australia;
no sources of water to evaporate/no clouds; etc

3 @ 1 mark                                                                                                    (3)

**(iv)** Ideas such as:
hundreds of different species/large biodiversity;
evergreen;
deciduous;
different layers of vegetation;
canopy of trees;
shrub layer;
emergents/tall trees;
lianas;
parasites/epiphytes;
drip tip leaves;
buttress roots; etc

4 @ 1 mark or development                                                                      [4]

**(b) (i)** Ideas such as:
logging/selling wood/for making furniture;
cattle ranching;
for planting plantations/rubber trees;
to grow cash crops;
so mining can take place/quarrying or examples;
to build settlement/to relocate people from the cities;
communications – roads/railways;
HEP; etc

3 @ 1 mark                                                                                                    [3]

**(ii)** Ideas such as:
it kills animals;
reduces variety of species (dev);
loss of habitat;
threatening species with extinction (dev);
impacts on food chain;
reduces interception;
therefore increasing run off(dev); causing floods(dev);
sedimentation of rivers (dev);
loss of nutrients in soil; etc.

5 @ 1 mark or development [5]

**(c)** Levels marking

Level 1 (1–3 marks)
Statements including limited detail **describing** characteristics of natural vegetation of tropical desert.
(e.g. scattered/sparse vegetation, seeds/plants only flower/grow for short periods, narrow/spiky leaves, long roots/wide spreading roots search for water, some plants store water, plants grow around oases; etc)

Level 2 (4–6 marks)
Uses named example
More developed statements **describing and explaining** characteristics of natural vegetation of tropical desert.

(e.g. 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 as it is so dry; little cover of soil/sand/bare rock surfaces so few plants grow; some plants/cacti store water in order to survive long periods of drought, plants grow around oases where water is available; 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 characteristics of natural vegetation of tropical desert, including some specific reference to **place or species of plants.**

(e.g. Low precipitation/aridity results in scattered/sparse vegetation, Joshua Tree remains dormant during long dry spells,
narrow/spiky leaves reduce rates of evapotranspiration/because of high temperatures, creosote bush has long roots/wide spreading roots search for water as it is so dry; little cover of soil/sand/bare rock surfaces so few plants grow; xerophytes/saguaro cactus stores water in order to survive long periods of drought, plants grow around oases where water is available; etc ) [7]

[Total: 25]

**5 (a) (i)** China

1 mark

**(ii)** US(A)/America;
Russia.

2 @ 1 mark [2]

**(iii)** Ideas such as:
Increase;
$30 to $130 per tonne/more than $30 but less than $40 – $130 – $135;
Especially since 2007/and in 2004 increase;
Remained fairly stable to 2003;
But fluctuated 2004 to 2008;
Decrease 2005 and 2006/2001 – 2002/2001 – 2003; etc

Reserve 1 mark for use of dates/statistics.
Max 2 on dates/statistics.
Remaining mark(s) need some interpretation.

3 @ 1 mark [3]

**(iv)** Ideas such as:
coal is non-renewable/it will run out;
thus will need to find alternative in future (dev);
costs are not stable;
and have increased rapidly since 2007/now high cost;
so costs of electricity will increase (dev);
pollutes the atmosphere/leads to global warming;
political pressure/global pressure/pressure from environmental groups to reduce dependence (dev)

4 @ 1 mark or development [4]

**(b) (i)** Factors such as:
proximity to coal/near coal mine;
availability of water/near a river/lake or sea;
flat/stable land (for building)/large area;
local workforce;
rail/road transport (for coal);
near ports for imports of coal; etc

3 @ 1 mark [3]

**(ii)** Ideas such as:
release of carbon dioxide;
which is a greenhouse gas (dev);
which accumulates in atmosphere(dev);
suns rays penetrate layer of gases;
bounce off earth`s surface;
but cannot escape through blanket of gases/are trapped(dev); etc

5 @ 1 mark or development [5]

**(c)** Levels marking

<u>Level 1</u>   (1–3 marks)
Statements including limited detail describing problems of use of fuelwood for people and/or local natural environment.
(e.g. pollutes the atmosphere, causes health problems, lost productivity when collecting firewood, time consuming collecting wood, loss of tree cover, soil erosion; etc)

<u>Level 2</u>   (4–6 marks)
Uses named example
More developed statements describing problems of use of fuelwood for people and/or local natural environment.
(e.g. pollutes the atmosphere with smoke/chemicals such as $CO_2$, causes health problems such as chest complaints/asthma/breathing difficulties, people cannot work in fields producing food if they are ill, time consuming walking long distances to collect wood, loss of tree cover causes soil erosion; etc)

NB Max 5 if no named example

<u>Level 3</u>   (7 marks)
Uses named example country or area, (e.g. Ethiopia).
Comprehensive and accurate statements describing problems of use of fuelwood for people and natural environment, including some place specific reference.
(e.g. pollutes the atmosphere with smoke/chemicals such as $CO_2$, in squatter camps at Addis Ababa health problems caused such as chest complaints/asthma/breathing difficulties, in rural areas close to border with Eritrea people cannot work in fields producing food, time consuming walking long distances to collect wood, in northern region of Tigray loss of tree cover causes soil erosion; etc)

NB: Annotate with 'p' for people and 'e' for environment.

[7]

[Total: 25]

**6 (a) (i)** Quality is reduced/gets worse/changes from good to bad

1 mark

**(ii)** Ideas such as:
Run off from rubbish tip;
Waste from factory;
Waste from sewage treatment works;
Waste from coal mine;
Joined by polluted tributaries;
Run off from motorways; etc

2 @ 1 mark [2]

**(iii)** Ideas such as:
cheap way of disposal/can't afford to treat it;
it is quick/easy/convenient;
regulations are not strict/no laws against it;
enforcement of regulations is poor/corruption
of officials;
lack of technology to treat waste;
lack of education/unaware of damage caused; etc

3 @ 1 mark [3]

**(iv)** Ideas such as:
better treatment of sewage;
factories stop discharging waste into rivers/install filters;
encouraging recycling of waste materials rather than dumping;
incinerate waste;
monitoring of water quality;
set up more strict regulations/apply laws;
ensure regulations are enforced/fines/suspension/closure;
education re- impacts; etc

4 @ 1 mark [4]

**(b) (i)** Ideas such as:
e.g. Motorway:
vegetation destroyed;
ecosystems threatened;
food chain disrupted;
loss of habitats;
visual pollution/change shape of landscape/change shape of mountain;
dust from construction;
noise from construction/traffic/machinery;
fumes from exhausts/traffic;
soil erosion (in cuttings);
sedimentation in river; etc

e.g. fish processing factory
woodland/scrub/vegetation destroyed;
ecosystems threatened;
food chain disrupted;
loss of habitats;
visual pollution;
noise from construction/traffic/machinery;
fumes from exhausts/traffic;
processing/smell;
threats to fish stocks; etc

e.g. resort and golf course
sand dune vegetation destroyed/plants/vegetation destroyed;
ecosystems threatened;
food chain disrupted;
loss of habitats;
noise from construction/traffic/machinery;
fumes from exhausts/traffic;
over use of water supplies/reduced water;
litter from tourists (on beaches);
waste from hotel (results in more landfill sites);
more sewage disposed of (at sea); etc

3 @ 1 mark                                                                              [3]

**(ii)** Ideas will depend on chosen option (e.g. resort and golf course):
restricting size of resort/tourist numbers; to reduce overcrowding/noise/congestion (dev);
conserve/restrict access to parts of dunes/areas where sensitive species are growing;
education of tourists/golfers regarding environmental issues; so they are aware of any
damage caused by their actions/behaviour (dev);
employing people to clear up regularly;
using local labour; keep money in local economy (dev); positive multiplier effect (dev);
using local provisions;
do not incorporate water features/fountains on golf course/resort;
build waste water processing plant for hotel/use waste water from hotel for water golf
course; etc

NB: Answer must link to candidates chosen development.
No double credit on ideas/development.

5 @ 1 mark or development                                                              [5]

**(c)** Levels marking
<u>Level 1</u>   (1–3 marks)
Statements including limited detail describing the benefits to people of an economic activity

(e.g. more jobs are created, foreign exchange/income, better schools/hospitals built, development of infrastructure/water/electricity/transport, meet people of different nationalities/cultural exchange; retention of culture/traditions, increased market for local farmers/food is bought in markets/by hotels, sales of local products; etc

<u>Level 2</u>   (4–6 marks)
Uses named example
More developed statements which describe the benefits to people of an economic activity (e.g. tourism).

(e.g. more jobs are created for local people so they earn regular income, foreign exchange/income spent on education/hospitals, development of infrastructure such as water/electricity/transport etc, meet people of different nationalities so cultural exchange; retention of culture/traditions as they are tourist attractions, increased market for local farmers as food is bought in markets/by hotels, sales of local craft items; etc)

NB Max 5 if no named example

<u>Level 3</u>   (7 marks)
Uses named example (e.g. tourism in Mahe, Seychelles).
Comprehensive and accurate statements including some place specific reference.
(e.g. more jobs are created for people in Beau Vallon Bay so they earn regular income, foreign exchange/income spent on new hospitals built in Victoria, improvement of water supply system to Anse Royale; development of airport to international standard by extension of runway, meet people of different nationalities, especially people from Europe, so cultural exchange; retention of Creole cooking and cultural dances as they are tourist attractions, increased market for local farmers as food is bought in markets in Victoria/by hotels/restaurants in Beau Vallon Bay, sales of local craft items such as shells and corals; etc)

NB: No marks awarded for description of economic activity.                          [7]

**[Total: 25]**