UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS

International General Certificate of Secondary Education

MARK SCHEME for the October/November 2006 question paper

0460 GEOGRAPHY

0460/01 Paper 1, maximum raw mark 75

This mark scheme is published as an aid to teachers and students, 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.

The grade thresholds for various grades are published in the report on the examination for most IGCSE, GCE Advanced Level and Advanced Subsidiary Level syllabuses.

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

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Final MARK SCHEME
Geography IGCSE Paper 1
Nov 2006

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.

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Question 1

(a) (i) Mozambique
1 mark (1)

(ii) 22 per 1000/2.2% (1 mark);
Evidence that candidate knows that the figure is calculated by subtracting DR from BR (second mark)
2 @ 1 mark (2)

(iii) A Sudan

B Botswana
2 @ 1 mark (2)

(iv) Ideally answer should be comparative, however be prepared to link points from separate accounts.
Ideas such as:
better quality health care in USA;
more likely to be preventative measures in USA/vaccination;
better diet/food supply in USA/less likelihood of starvation;
better sanitation in USA;
cleaner water supply in USA;
healthier lifestyle in USA;
AIDS is more of a problem in Botswana;
Education re. health care etc
3 @ 1 mark or development (3)

(b) (i) Credit reasons such as:
improved access to contraceptives;
education about birth control;
education about adverse impacts of large families;
mechanisation of agriculture;
compulsory schooling;
pension schemes set up/less need for children to look after elderly;
reduction in IMR/no need to have so many children;
government policy;
secularisation/religion less of a control over decision-making;
changing attitudes towards women;
women wanting a career before children;
increasing desire for material possessions etc
5 @ 1 mark or development (5)

(ii) Credit references **only** to natural growth rates not BR and/or DR seen in isolation. Credit development for reference to growth rate statistics not BR and DR statistics. Ideas such as:
generally small increase between 1900 and 1950;
less than 3 or 4 per 1000;
fluctuated between 1900 and 1950;
some years between 1900 and 1950 saw decrease/1905/1920/1935;
much more rapid increase from 1950 onwards;
up to 30 per 1000;
rate of increase decreased especially from 1980 onwards;
to about 14 per 1000 etc
5 @ 1 mark or development (5)

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(c) Accept a wide variety of strategies to increase and/or decrease growth rates. Candidates should refer to at least one example which they have studied, with **one** example mark reserved but two possible if two good contrasting examples are used.
Expect reference to ideas such as:
government aimed to reduce population growth by reducing birth rate by:
financial incentives;
legislation;
enforcement strategies;
better hospitals/clinics/health care/more doctors;
sex education within schools;
distribution of contraceptives;
pension schemes etc

7 @ 1 mark or development of specific details in relation to selected countries. (7)

TOTAL 25 marks

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Question 2

(a) (i) Settlement which has grown up around/spread out from a nucleus/central point/which is clustered/with buildings close together.
1 mark (1)

(ii) Ideas such as:
steep slope (preventing expansion to east);
flood plain/liable to flooding/marshy land (preventing expansion to west);
growth along main road etc
2 @ 1 mark (2)

(iii) Ideas such as:
dispersed/spread out/1 to 3 km away from each other;
in lines/linear pattern;
north – south;
on or around 30 metres/below 60 metres/lowland;
on gently sloping land;
both sides/east and west of river;
at least a 2 km away from River Ancholme;
closer together east of river;
along roads;
northern part of map/north of Brigg etc
3 @ 1 mark or development (3)

(iv) Reasoning such as:
spread out to serve farming communities;
in lines/on roads for access/communications;
away from river to avoid flooding;
below 30 metres for shelter;
water supply nearby;
flat/gentle slopes for ease of building;
for food supply from river/valley etc
4 @ 1 mark or development (4)

(b) (i) Types of services such as:
retail or example e.g. specialist shops/department stores;
leisure or example e.g. cinema/theatre;
educational or example e.g. school/university;
medical or example e.g. hospital;
financial services e.g. banks;
large supermarket for weekly shop;
it provides a market for farmers etc
3 @ 1 mark (3)

(ii) Candidates need to describe and suggest reasons for the differences in the spheres of influence. Ideally answers should be comparative but be prepared to link statements from discrete accounts. MAXIMUM 3 for each of description/explanation. Ideas such as:
King's Lynn has a larger sphere of influence;
as the population of King's Lynn is large;
it will have high order services;
Holbeach has a regular shaped sphere of influence;
King's Lynn's position close to the coast affects shape;
impact of competing market towns etc
5 @ 1 mark or development (5)

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(c) Candidates need to refer to an example they have studied, for which **one mark is reserved** and should be awarded only if the correct function is identified. They can refer to any urban settlement in an LEDC or MEDC and any function can be identified. Credit reasons for the growth of the town, and specific references to reasons for the function.

e.g. Liverpool is a port:
located on estuary of Mersey river;
deep water anchorage;
sheltered anchorage;
space for expansion of warehouse facilities;
opposite side of Atlantic to USA encouraged trade;
hinterland of industrial towns/cotton manufacturing;
well developed road/rail communications;
impact of Manchester Ship Canal etc

7 @ 1 mark or development (7)

TOTAL 25 marks

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Question 3

(a) (i) Screes/loose rocks
1 mark (1)

(ii) **Weathering** involves breakdown of rock 'in situ'/rock is broken down by weather physically or chemically as a result of atmospheric conditions.
Erosion involves a moving agent/shaped by river/ice/waves/wind.

1 mark for each definition
2 @ 1 mark (2)

(iii) River erosion processes:
corrasion – bed and banks worn away by materials carried by river;
corrosion – chemical impact of river water on rocks;
hydraulic action – weight/force of water dislodging unconsolidated materials.

1 mark only for stating names of all three processes without any explanation
1 mark only for all three processes described but not named.
3 @ 1 mark (3)

(b) (i) Features should ideally be evident from photographic evidence, though some observations may be 'by implication'. Ideas such as:
bare rock surfaces/no vegetation;
rocks with joints/cracks/fissures/grikes;
bedding planes;
lichens/mosses growing on rocks;
high land/mountains;
grey coloured rocks;
angular rocks/clints;
sloping from left to right;
sparsely populated/little habitation etc
3 @ 1 mark (3)

(ii) Candidates should describe the process of freeze-thaw weathering. Credit written answers or information included as part of labelled diagrams (do not double credit here). Expect ideas such as:
freeze thaw weathering;
rain collects in cracks/joints;
temperature falls;
water freezes – expands;
stress on cracks/joints;
joints opened;
melting;
more water enters the joints/repetition etc
4 @ 1 mark or development

NB Accept reference to processes involved in weathering of limestone or any other chemical weathering process. (4)

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(iii) Ideally this answer should be comparative, however accept ideas expressed in two discrete accounts.
Ideas such as:
tropical regions have higher temperatures;
and more rainfall;
which encourages chemical weathering;
doubles with every rise of 10°C;
encourages biological weathering;
as there is far more plant growth;
more likelihood of tree roots in cracks;
more rapid release of CO_2 from decay of plants etc

NB Accept approach from temperate point of view.
5 @ 1 mark or development (5)

(c) Candidates should explain by reference to both the advantages and disadvantages of the scheme. Credit up to 6 MAXIMUM for advantages/disadvantages.

Expect advantages relating to issues such as:
generation of electricity;
which may attract industrial development;
provision of water supplies;
creation of employment during construction phase;
potential for development of tourism/leisure facilities;
multiplier effect etc

expect disadvantages relating to issues such as:
flooding of farmland;
loss of natural river/valley;
impact on species;
loss of recreational area;
visual impact etc
7 @ 1 mark or development (7)

TOTAL 25 marks

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Question 4

(a) (i) 3 (C)
1 mark (1)

(ii) Total amount is 1811mm (accept 1760 to 1860 mm);
second mark for indication of need to add monthly figures
2 @ 1 mark (2)

(iii) Characteristics should ideally be evident from Fig. 6a, though some observations may be 'by implication'.
Ideas such as:
distinct layers/trees at different heights;
emergents/tall trees;
canopy;
shrub layer/undergrowth;
buttress roots;
lianas/vines;
adundant vegetation/thick forest/trees close together;
many different species/great variety etc
3 @ 1 mark (3)

(iv) Candidates should explain how characteristics of natural vegetation and climate are interlinked, rather than simply describing those characteristics. Credit reference to any vegetation characteristics not just those shown in Fig. 6a. Expect ideas such as:
abundant vegetation due to hot/wet climate;
evergreen due to lack of a cold season/limited seasonal change;
drip tip leaves to repel heavy rain;
emergents reach for sun;
lianas/vines reach for the sun;
variety of species as growing conditions are ideal/hot/wet etc
4 @ 1 mark or development (4)

(b) (i) Evidence such as:
they have policies/practices/which protect the global environment/they are aware of need to take care;
e.g. they do not use former rainforest land for their beef;
their beef suppliers use well established cattle ranches;
e.g. they use recycled paper etc
3 @ 1 mark or development (3)

(ii) Candidates should explain why there is concern over rainforest destruction. Whilst there are various angles, expect reference to ideas such as:
loss of species; leads to extinction (dev);
impact on food chains/ecosystems;
loss of habitats;
possible future cures for disease;
increased run off;
soil erosion;
flooding;
pollution of rivers;
impact on rainfall (decrease);
impact on tribes/cultures;
impact on oxygen/carbon dioxide balance;
global warming etc
5 @ 1 mark or development (5)

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c) Expect reference to factors such as:
latitude;
influence of overhead sun;
distance from oceans;
presence/absence of moderating influence of water body;
wind direction/trade winds/doldrums;
lack of/presence of evaporation;
presence/absence of cloud cover;
air pressure etc

No MAXIMUM on any one factor, providing adequate development of points.
MAXIMUM 5 marks on each area.
7 @ 1 mark or development (7)

TOTAL 25 marks

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Question 5

(a) (i) 86/87%
1 mark (1)

(ii) Ideas such as:
many are employed in subsistence agriculture/grow their own food;
as a result of large rural poulation;
there is little manufacturing/industry/factories;
as a result of lack of technology;
service provision is limited;
as a result of lack of money;
or a lack of education/skills etc
3 @ 1 mark or development (3)

(iii) A Primary
B Tertiary
C Secondary

All 3 correct = 2 marks, 1 or 2 correct = 1 mark (2)

(iv) Candidates should give reasons for their views – MAX 2 for description of likely changes. Expect ideas such as:
increased proportion of secondary/tertiary;
decrease proportion of primary;
fewer people working on farms;
due to further decline of plantations/growth of other forms of commercial agriculture;
or greater use of technology in farming;
movement to the cities;
growth of new manufacturing/industry/factories;
as a result of development of technology;
increase in service provision/schools/hospitals;
further tourist development etc
4 @ 1 mark or development (4)

(b) (i) MAX 2 marks for description of changes, full marks can only be obtained by use of supporting examples and figures. Also MAX 2 for figures alone. Ideas such as:
decrease in export of primary products;
increase in export of secondary products (Reserved mark);
e.g. farm products down from 66 to 4%;
e.g. electronics up from 3 to 30%
3 @ 1 mark (3)

(ii) Ideas such as:
cheap labour supply/low wages/can make goods cheaply;
plenty of available workers/creation of jobs;
potential workers are skilled/educated;
large potential market/high demand for electrical products;
increased reputation for high quality;
don't require large amounts of raw materials/fuel;
investment by multinational companies;
production for export/foreign exchange/they earn a lot of money/highly paid jobs etc
5 @ 1 mark or development (5)

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(c) Candidates should describe the impacts of economic growth on local people, positive and negative impacts are acceptable with no maximum mark on either. Ideas such as:
more people in employment;
higher/more regular wages;
possibility of exploitation/low wages/poor working conditions;
improvements in infrastructure (e.g. roads, water supplies – MAX 2 examples);
increased congestion;
increased atmospheric/water/noise pollution;
rising standard of living or specifics (e.g. housing/sanitation– MAX 2 examples);
improvement in public services or specifics (e.g. health care/education – MAX 2 examples) ;
greater demand for products of local industry;
multiplier effect;
rural to urban migration etc

No MAXIMUM on any one factor, providing adequate development of points.
7 @ 1 mark or development (7)

TOTAL 25 marks

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Question 6

(a) (i) 14.5°C
1 mark (1)

(ii) Ideas such as:
temperatures have increased;
from 14°C to 14.4°C/by 0.4°C/but fluctuated;
2 @ 1 mark (2)

(iii) There are three distinct stages of the explanation here:
heat from sun passes through atmosphere/incoming solar radiation;
bounces back from surface/radiated/reflected back from surface;
it is trapped by layer of gases
3 @ 1 mark (3)

(iv) Ideas such as:
human activities produce many of the gases which trap the heat;
e.g. carbon dioxide from burning fossil fuels/coal/oil;
in vehicles/power stations/factories (MAX 2);
CFCs from fridges/packaging/aerosols (MAX 2);
methane from agriculture/cattle grazing/paddy fields (MAX 2);
deforestation;
reduces use of carbon dioxide by trees/creates more carbon dioxide due to burning (dev) (MAX 2) etc
4 @ 1 mark or development (4)

(b) (i) Ideas such as:
rising sea level;
threat of high/'king' tides;
all land is below 4.5 metres above sea level/low land;
the country consists of a series of islands/atolls etc
3 @ 1 mark (3)

(ii) Expect reference to ideas such as:
Tuvalu may be flooded/be directly affected but
USA/Australia will not;
lives of people in Tuvalu are threatened;
along with their property/or examples;
and their livelihoods/or examples;
Australia/USA are partially responsible for the emissions;
as their economies depend on industry/transport etc

MAXIMUM 3 marks on each country
5 @ 1 mark or development (5)

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(c) Candidates are likely to choose an area threatened by tourism, agriculture, mining or manufacturing industry. However be prepared to accept reference to any human activity which threatens the natural environment, in any country, and at any scale. Candidates need to refer to an example they have studied, linked with an appropriate activity for which **one mark is reserved**.

e.g. opencast mining of asbestos at Thetford Mines in Quebec, Canada:
visual impact/destruction of landscape;
damage to habitats;
impacts on food chain/ecosystem;
noise pollution from mine;
dust/atmospheric pollution;
threat to species;
increased traffic levels create noise/danger for wildlife;
pollution of water courses;
impact on aquatic life etc

No MAXIMUM on any one aspect, providing adequate development of points.
7 @ 1 mark or development (7)

TOTAL 25 marks

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