As part of CIE's continual commitment to maintaining best practice in assessment, CIE has begun to use different variants of some question papers for our most popular assessments with extremely large and widespread candidature, The question papers are closely related and the relationships between them have been thoroughly established using our assessment expertise. All versions of the paper give assessment of equal standard.

The content assessed by the examination papers and the type of questions are unchanged.

This change means that for this component there are now two variant Question Papers, Mark Schemes and Principal Examiner's Reports where previously there was only one. For any individual country, it is intended that only one variant is used. This document contains both variants which will give all Centres access to even more past examination material than is usually the case.

The diagram shows the relationship between the Question Papers, Mark Schemes and Principal Examiner's Reports.

Question Paper	**Mark Scheme**	**Principal Examiner's Report**
Introduction	Introduction	Introduction
First variant Question Paper	First variant Mark Scheme	First variant Principal Examiner's Report
Second variant Question Paper	Second variant Mark Scheme	Second variant Principal Examiner's Report

Who can I contact for further information on these changes?
Please direct any questions about this to CIE's Customer Services team at: international@cie.org.uk

UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS

International General Certificate of Secondary Education

MARK SCHEME for the May/June 2009 question paper

for the guidance of teachers

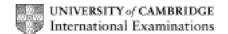# 0460 GEOGRAPHY

0460/11   Paper 1, maximum raw mark 75

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UNIVERSITY *of* CAMBRIDGE
International Examinations

Page 2	Mark Scheme: Teachers' version	Syllabus	Paper
	IGCSE – May/June 2009	0460	11

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.

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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.

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Page 3	Mark Scheme: Teachers' version	Syllabus	Paper
	IGCSE – May/June 2009	0460	11

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.

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.

Page 4	Mark Scheme: Teachers' version	Syllabus	Paper
	IGCSE – May/June 2009	0460	11

1 (a) (i) When people move/migrate from one country to another

        1 mark   [1]

    (ii) A = Mexico/China/Philippines/India
B = Pakistan/Russia/UK/South Korea/Colombia/Dominican Republic/Canada/
        El Salvador/Jamaica

        2 @ 1 mark   [2]

   (iii) Pulls such as:
for work opportunities/higher wages;
to improve quality of life/standard of living/better housing;
better provision of doctors/hospitals etc.;
better chance of education for children;
safety/security etc.

NB Do not accept PUSHES

        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;
higher living costs/unable to buy homes/live in poor conditions/overcrowding;
discrimination may occur;
many have entered illegally;
thus poor access to services/or examples
exploitation by gangmasters/factory owners etc.

        4 @ 1 mark   or development   [4]

(b) (i) Ideas such as:
west/north west and south of Utah;
south east/south of New York;
north east/north east of New York;
or east (coast)/Atlantic coast

NB Do not double credit north east (or south east) and east coast

        3 @ 1 mark   [3]

Page 5	Mark Scheme: Teachers' version	Syllabus	Paper
	IGCSE – May/June 2009	0460	11

(ii) Ideas such as:
high levels of unemployment;
due to industrial decline (dev);
high crime rates;
such as muggings/car crime (dev);
high levels of atmospheric pollution;
from exhaust fumes (dev);
traffic congestion;
overcrowded/lack of open space;
high cost of land/housing etc.

NB Accept PULLS of rural areas by implication.

5 @ 1 mark or development [5]

(c) Levels marking

<u>Level 1</u> (1–3 marks)
Statements including limited detail which suggest reasons for low population density.
(e.g. no jobs, high land, 'bad' climate etc.)

<u>Level 2</u> (4–5 marks)
More developed statements which explain reasons for low population density.
(e.g. few jobs as there are no factories in the area, high land is difficult to build settlements on/communications through, cold climate/long wet winters etc.)

<u>Level 3</u> (6–7 marks)
Uses named example (e.g. Snowdonia).
Comprehensive and accurate statements explaining low population density, including some place specific reference.
(e.g. few jobs as opportunities are limited to sheep farming, forestry, water supply which require few workers and the slate quarries which used to employ many people have closed, highland including many mountains (e.g. Snowdon) which are unsuitable for building, poor road communications with winding roads through mountains such as A5 etc.) [7]

[Total: 25 marks]

Page 6	Mark Scheme: Teachers' version	Syllabus	Paper
	IGCSE – May/June 2009	0460	11

2 (a) (i) 800 000/0.8 million

                   1 mark   [1]

   (ii) Abdali/Abdoun/Jubeiha/airport road

                   2 @ 1 mark   [2]

  (iii) Ideas such as:
high cost land in urban areas;
due to high demand for business/residential use;
lack of space in urban area/more people are able to live in small area;
upward building saves cost;
prestige etc.

                   3 @ 1 mark   [3]

  (iv) Ideas such as:
there will be more demand for services/amenities than already exists;
schools will be overcrowded;
hospitals will be overcrowded/unable to treat all patients;
utilities/water/electricity will be in short supply;
roads will be congested;
increased cost of/need to provide more services amenities etc.

                 4 @ 1 mark or development   [4]

  (b) (i) Photograph A = Business use/shopping area
Photograph B = Residential/housing area
Photograph C = Educational/school/sports or leisure centre

                   3 @ 1 mark   [3]

   (ii) Benefits such as:
Good educational facilities;
work available;
Can buy provisions easily/shops nearby;
Availability of electricity/gas/water;
TV reception/satellite;
Road network;
Availability of taxis;
Availability of professionally built housing/large housing stock;
leisure facilities/sports centre/sports courts

                 5 @ 1 mark or development   [5]

Page 7	Mark Scheme: Teachers' version	Syllabus	Paper
	IGCSE – May/June 2009	0460	11

(c) Levels marking

<u>Level 1</u> (1–3 marks)
Statements including limited detail on causes or attempts to solve problem of housing shortages.
(e.g. population is too large, there isn`t enough money to build houses, lack of land, build new houses, move people away from the city etc.)

<u>Level 2</u> (4–5 marks)
More developed statements on causes or attempts to solve problem of housing shortages.
(e.g. population is too large because of rural to urban migration, local government does not raise enough money from taxation to build houses/has other priorities for use of money, lack of building land as city is densely populated/surrounded by mountains/occupied by industrial zones, government investment in high rise flats/housing estates, give incentives for people to move away from the city/back to rural areas etc.)

<u>Level 3</u> (6–7 marks)
Uses named example (e.g. Rio de Janeiro).
Reference both causes and solutions to housing problems including some place specific reference.
(e.g. population is too large because of migration from central regions of/north east Brazil, local government does not raise enough money from taxation to build houses/concentrates on spending money on areas visited by tourists, lack of building land and city is surrounded by mountains, Installation of mains water in favelas; Laying of sewage pipes/building of sewage works in areas such as Rocinha; increase of local authority housing stock; build tarred roads to shanty towns on mountain slopes on edge of city; provide public transport to shanty towns; Regular collection of refuse; Site and services schemes; education in building skills; provision of low cost building materials; building of schools; building of clinics/hospitals; provide free education for street children etc.) [7]

[Total: 25 marks]

Page 8	Mark Scheme: Teachers' version	Syllabus	Paper
	IGCSE – May/June 2009	0460	11

3 (a) (i) (Natural) arch

1 mark [1]

(ii) Hydraulic action = force/weight of waves/compression of air in cracks
Corrosion = dissolving of rock by (acids in) sea water/solution.

2 @ 1 mark [2]

(iii) Features such as;
white/grey rock/limestone;
bare rock;
joints/cracks/layers;
arch shape described;
attached to headland etc.

3 @ 1 mark [3]

(iv) Ideas such as:
Powerful swash moves material up beach;
Weak backwash does not get chance/have energy to remove it;
(Or swash is stronger than backwash = 1)
Therefore beach material builds up over time;
Larger material carried further up beach;
Gentle slope reduces speed – causes sedimentation;
Deposition in sheltered bays/refraction – Max 1

4 @ 1 mark or development [4]

(b) (i) Fig. 4A = Fringing reef
Fig. 4B = Barrier reef
Fig. 4C = Atoll

3 @ 1 mark [3]

(ii) Conditions required for the growth of coral reef such as:
Warm water/seas; temperatures above 20 degrees C (dev)
Shallow water; not more than 60 metres deep (dev)
Water free from sediment/clear/availability of light;
Plentiful supply of oxygen in water/unpolluted;
Plentiful supply of plankton;
Lack of strong currents etc.

5 @ 1 mark or development [5]

Page 9	Mark Scheme: Teachers' version	Syllabus	Paper
	IGCSE – May/June 2009	0460	11

(c) Levels marking

Level 1 (1–3 marks)
Statements including limited detail explaining how/why sand dunes have developed.
(e.g. deposition by wind, onshore winds, builds up over time etc.)

Level 2 (4–5 marks)
More developed statements explaining how/why sand dunes have developed.
(e.g. deposition by wind as energy is reduced, onshore winds pick up dry sand from beach, obstruction on beach/pebble/seaweed causes eddies/sheltered area; marram grass colonizes dunes and traps further sand etc.)

Level 3 (6–7 marks)
Uses named example (e.g. Ynyslas dunes, Dyfed).
Comprehensive and accurate statements explaining how/why sand dunes have developed, including some place specific reference.
(e.g. deposition by wind as energy of winds blowing from Cardigan Bay is reduced, westerly onshore winds pick up dry sand from the wide beach at the estuary of the Dovey river, obstruction on beach/pebble/seaweed causes eddies/sheltered area; marram grass colonizes dunes and traps further sand etc.) [7]

[Total: 25 marks]

Page 10	Mark Scheme: Teachers' version	Syllabus	Paper
	IGCSE – May/June 2009	0460	11

4 (a) (i) breakdown of rock 'in situ'/rock is broken down physically or chemically as a result of atmospheric conditions.

1 mark [1]

(ii) A. Tropical desert areas = 5B/exfoliation
B. Temperate mountainous areas = 5A/freeze thaw

2 @ 1 mark [2]

(iii) Ideas such as:
seeds fall into cracks in rocks;
plants/roots grow in cracks;
cracks widened/rocks broken apart;
organic acids help decomposition of rocks;
animals may burrow/weaken rocks etc.

3 @ 1 mark [3]

(b) (i) Features should be evident from photographic evidence.
Ideas such as:
steep crags/cliff;
bare rock/sparse vegetation/tree growing in crack;
grey/light colour;
cracks/fissures/joints/faults;
bedding planes
scree/broken rocks/weathered material at base;
more vegetation at base etc.

3 @ 1 mark [3]

(ii) Ideas such as:
carbon dioxide in air reacts with rainwater;
forms carbonic acid/acid rain;
reacts with calcium carbonate/limestone;
pervious/seeps through cracks;
forms calcium bicarbonate/calcium hydrogen carbonate;
which is soluble in water;
widens/deepen cracks etc.

4 @ 1 mark or development [4]

(iii) Ideas such as:
Food production/agriculture/grazing;
Scenic beauty/tourist industry;
Extractive industry/building materials;
Human use of wildlife/hunting/fishing;
Educational value;
Forestry etc.

5 @ 1 mark or development [5]

Page 11	Mark Scheme: Teachers' version	Syllabus	Paper
	IGCSE – May/June 2009	0460	11

(c) Levels marking

<u>Level 1</u> (1–3 marks)
Statements including limited detail explaining the causes and/or describing the effects of flood/drought/tropical storm.
(e.g. heavy rain, impermeable rocks, flood plains built on, loss of life, damage to property etc.)

NB MAX L1 if example chosen is not in chosen list of hazards (e.g. volcanic eruption).

<u>Level 2</u> (4–5 marks)
More developed statements explaining the causes and/or describing the effects of flood/drought/tropical storm.
(e.g. heavy rain falling over a relatively short period, impermeable rocks encouraging overland flow and rapidly raising river levels, underlying rocks river/constricting flow, loss of life as people drowned, damage to houses and carpets etc.)

<u>Level 3</u> (6–7 marks)
Uses named example (e.g. River Lyn).
Comprehensive and accurate statements explaining the causes and describing the effects of flood/drought/tropical storm, including some place specific reference.
(e.g. thunderstorms associated with frontal depression formed torrential rain – 229 mm near Longstone Barrow on Exmoor, saturated from previous rainfall as it had rained for 12 of the previous 14 days, impermeable rocks of Exmoor encouraging overland flow and rapidly raising river levels, river had been diverted and its channel made narrower due to building of hotels in Lynmouth, bridges over river trapped boulders and formed temporary dams, 34 people drowned, 130 cars and 19 boats destroyed etc.)   [7]

[Total: 25 marks]

Page 12	Mark Scheme: Teachers' version	Syllabus	Paper
	IGCSE – May/June 2009	0460	11

5 (a) (i) Employment structure means how the workforce is divided up between employment sectors

　　　　　　　　1 mark　　　　　　　　　　　　　　　　　　　　　　[1]

(ii) A. fishing/mining/agriculture/forestry etc.
B. teaching/nursing/office work/lorry driving etc.

　　　　　　　　2 @ 1 mark　　　　　　　　　　　　　　　　　　　[2]

(iii) Ideas such as:
reduction in primary sector;
increase in tertiary sector;
initial increase followed by decrease in secondary sector

　　　　　　　　3 @ 1 mark　　　　　　　　　　　　　　　　　　　[3]

(b) (i) Input: cattle
Process: slaughtering/canning beef/taking bones from beef etc.
Output: beef/canned beef/boned beef/by-products or examples.

　　　　　　　　3 @ 1 mark　　　　　　　　　　　　　　　　　　　[3]

(ii) Ideas such as:
employment in factory;
multiplier effect;
more money circulating in area/more wealthy people living in the area;
improvements to quality of life or examples (e.g. afford more food/education/health care etc.)
development of transport network;
development of infrastructure/electricity/water supply
availability of products/reduces prices of products;

　　　　　　　　4 @ 1 mark or development　　　　　　　　　　　　[4]

(iii) Ideas such as:
atmospheric pollution/smoke from factory;
exhaust fumes from lorries;
pollution of rivers/groundwater;
visual impact;
clearance of natural vegetation;
impact on fauna/loss of habitats;
impact on ecosystems/food chains

　　　　　　　　5 @ 1 mark or development　　　　　　　　　　　　[5]

Page 13	Mark Scheme: Teachers' version	Syllabus	Paper
	IGCSE – May/June 2009	0460	11

(c) Levels marking

<u>Level 1</u> (1–3 marks)
Statements including limited detail explaining why high technology industries were attracted (e.g. large workforce, good transport links, cheap land, near international airports, near universities etc.)

NB MAX L1 if example chosen is manufacturing/processing industry not high technology industry.

<u>Level 2</u> (4–5 marks)
More developed statements explaining why high technology industries were attracted
(e.g. skilled, highly qualified workforce, good motorway links to transport finished products, proximity to international airport to import component parts, large areas of attractive, greenfield sites for employees to live, near universities to obtain skilled workforce etc.)

<u>Level 3</u> (6–7 marks)
Uses named example (e.g. Malaysia).
Comprehensive and accurate statements including some place specific reference.
(e.g. skilled, highly qualified workforce can be obtained from nearby universities, good motorway links to transport components/finished products, proximity to Kuala Lumpur international airport for business travel, government investment into planned high tech industrial areas such as at Penang (Silicon Island), government 'technology action plan' put emphasis on technology etc.)   [7]

[Total: 25 marks]

6 (a) (i) 1985

       1 mark   [1]

  (ii) A = growing crops/keeping animals/producing food **to sell**
B = visitors from abroad taking holidays/vacations in a different country

       2 @ 1 mark   [2]

 (iii) Ideas such as:
increase in international tourism;
11/12% (1970) to 34% (2005)/by 22/23%;
decrease in commercial agriculture;
35/36% to 11%/by 24/25%

       3 @ 1 mark   [3]

  (iv) Ideas such as:
Money spent on accommodation;
Money spent on transport;
Money spent on food/restaurants;
Money spent buying craft items/souvenirs;
Earnings from people in tourist industry or examples (MAX 1);
Tips etc.

       4 @ 1 mark or development   [4]

 (b) (i) Ideas such as:
steep slopes;
thin soils;
rock outcrops;
no access/difficulty of transport to market;
dry summer/lack of rain etc.

       3 @ 1 mark   [3]

  (ii) Ideas such as:
long hours of sunshine;
especially June to September;
high temperatures;
low rainfall April to Oct;
sea area/sailing;
waterfront restaurants/bars;
scenic beauty;
historical/traditional buildings;
souvenir shops etc

       5 @ 1 mark or development   [5]

| **Page 15** | **Mark Scheme: Teachers' version** | **Syllabus** | **Paper** |
| | **IGCSE – May/June 2009** | **0460** | **11** |

(c) Levels marking

Level 1 (1–3 marks)
Statements including limited detail which explain why there are food shortages.
(e.g. Drought, flooding, hurricanes/cyclones/typhoons, poor farming practices, exhaustion of soils, soil erosion, wars/conflict, lack of investment/poverty, lack of agricultural technology etc.)

Level 2 (4–5 marks)
More developed statements which explain why there are food shortages.

(e.g. drought reduces yields of crops, overcultivation as fields are not given fallow time, overgrazing due to keeping too many cattle, lack of investment in irrigation/fertilizers, still using traditional farming practices such as ploughing up and down slopes, poverty prevents them buying fertilizers/pesticides etc.)

Level 3 (6–7 marks)
Uses named example (e.g. Ethiopia).
Comprehensive and accurate statements, explain why there are food shortages, with some place specific reference.
(e.g. drought which extended into neighbouring Eritrea reduces yields of crops, overcultivation as fields are not given fallow time, overgrazing due to keeping too many cattle especially in the northern region of Tigray, lack of investment in irrigation/fertilizers, still using traditional farming practices such as ploughing up and down slopes, poverty prevents them buying fertilizers/pesticides etc.) [7]

[Total: 25 marks]

UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS

International General Certificate of Secondary Education

MARK SCHEME for the May/June 2009 question paper

for the guidance of teachers

0460 GEOGRAPHY

0460/12   Paper 1, maximum raw mark 75

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International Examinations

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	IGCSE – May/June 2009	0460	12

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                    1 mark   [1]

    (ii) A = Mexico/China/Philippines/India
           B = Pakistan/Russia/UK/South Korea/Colombia/Dominican Republic/Canada/
           El Salvador/Jamaica

                    2 @ 1 mark   [2]

   (iii) Pulls such as:
           for work opportunities/higher wages;
           to improve quality of life/standard of living/better housing;
           better provision of doctors/hospitals etc.;
           better chance of education for children;
           safety/security etc.

           NB Do not accept PUSHES

                    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;
           higher living costs/unable to buy homes/live in poor conditions/overcrowding;
           discrimination may occur;
           many have entered illegally;
           thus poor access to services/or examples
           exploitation by gangmasters/factory owners etc.

                    4 @ 1 mark   or development   [4]

  (b) (i) Ideas such as:
           west/north west and south of Utah;
           south east/south of New York;
           north east/north east of New York;
           or east (coast)/Atlantic coast

           NB Do not double credit north east (or south east) and east coast

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high levels of unemployment;
due to industrial decline (dev);
high crime rates;
such as muggings/car crime (dev);
high levels of atmospheric pollution;
from exhaust fumes (dev);
traffic congestion;
overcrowded/lack of open space;
high cost of land/housing etc.

NB Accept PULLS of rural areas by implication.

5 @ 1 mark or development   [5]

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(e.g. no jobs, high land, 'bad' climate etc.)

<u>Level 2</u> (4–5 marks)
More developed statements which explain reasons for low population density.
(e.g. few jobs as there are no factories in the area, high land is difficult to build settlements on/communications through, cold climate/long wet winters etc.)

<u>Level 3</u> (6–7 marks)
Uses named example (e.g. Snowdonia).
Comprehensive and accurate statements explaining low population density, including some place specific reference.
(e.g. few jobs as opportunities are limited to sheep farming, forestry, water supply which require few workers and the slate quarries which used to employ many people have closed, highland including many mountains (e.g. Snowdon) which are unsuitable for building, poor road communications with winding roads through mountains such as A5 etc.)   [7]

[Total: 25 marks]

Page 6	Mark Scheme: Teachers' version	Syllabus	Paper
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2 (a) (i) Huby/Sepolno/Gadow Maly/Karlowice/Muchobor Wielki/Krzyki

1 mark [1]

(ii) South East/SSE…1.9 – 2.1 km

2 @ 1 mark [2]

(iii) Ideas such as:
Square B3 has less variation in land use;
Square B3 has more open space;
Square B3 has more residential use;
More industry in C2;
Denser network of roads/rail in C2;
CBD in C2 but not in C3 etc.

3 @ 1 mark [3]

(iv) Ideas such as:
proximity to railway lines;
close to main roads;
for transport of raw materials/finished products (dev);
proximity to river/canal;
for water supply/transport/water power (dev);
some are in suburban areas where more space is available;
close to residential areas for workforce etc.

4 @ 1 mark or development [4]

(b) (i) A is older;
A is not as tall
A is above shops B is not;
A has sloping roof B has flat roof;
A has chimneys B has none;
A brick built B concrete slabs;
B has etc.

3 @ 1 mark [3]

(ii) Benefits such as:
Close to work/factory;
Close to CBD/services;
Low cost;
Close to main road to travel to work/shops etc.

Problems such as:
Old/in need of repair;
Noise from factory;
Air pollution from road/factory;
Small amount of living space;
No off road parking;
Unpleasant views of factories etc.

5 @ 1 mark. Max 3 marks on benefits/problems. [5]

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(c) Levels marking

Level 1 (1–3 marks)
Statements including limited detail on causes or attempts to solve problem of traffic congestion.
(e.g. poor/narrow/not enough roads, high car ownership, building more roads, more public transport, stop cars entering some areas etc.)

Level 2 (4–5 marks)
More developed statements on causes or attempts to solve problem of traffic congestion.
(e.g. poor road system which was developed before so many cars were used, many people wanting to use cars to reach CBD, building a ring road around the city, setting up an urban tramway, pedestrianising streets in CBD etc.)

Level 3 (6–7 marks)
Uses named example (e.g. Traffic congestion in London).
Reference to both causes of and solutions to traffic congestion, including some place specific reference.
(e.g. difficulty of improving road system in such a high density area, many people commuting from suburban areas to work in the city, building of M25 motorway around London to prevent all traffic passing through, expansion of underground railway system by building of new lines like Docklands Light Railway, use of congestion charge for entry to central area etc.)   [7]

[Total: 25 marks]

Page 8	Mark Scheme: Teachers' version	Syllabus	Paper
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3 (a) (i) Wave cut (marine/abrasion) platform

1 mark [1]

(ii) Hydraulic action = force/weight/pressure of waves/compression of air in cracks
Corrasion = wearing of rock by rocks/pebbles being thrown against it by waves.

2 @ 1 mark [2]

(iii) Features such as:
white/grey rock/limestone;
flat area of rock;
smooth rocks;
loose stones/boulders on surface;
growth of algae in some places;
rock pools etc.

3 @ 1 mark [3]

(iv) Ideas such as:
line of weakness/joint in rock;
widened;
by corrasion/hydraulic action (dev);
form cave;
back to back caves increase in size;
finally break through to form arch etc.

4 @ 1 mark or development [4]

(b) (i) P is at a higher level;
P is steeper;
P consists of pebbles/Q is sand/beach material is larger at P;
P is at high tide level/Q near low tide level;
P nearer the cliff/Q nearer the sea etc.

3 @ 1 mark [3]

(ii) Ideas such as:
Powerful swash moves material up beach;
Weak backwash does not get chance/have energy to remove it;
(Or swash is stronger than backwash = 1)
Therefore beach material builds up over time;
Larger material carried further up beach;
Gentle slope reduces speed – causes sedimentation;
Deposition in sheltered bays/refraction – Max 1

5 @ 1 mark or development [5]

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Page 9	Mark Scheme: Teachers' version	Syllabus	Paper
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(c) Levels marking

Level 1 (1–3 marks)
Statements including limited detail describing conditions which have led to coral reef formation have developed.
(e.g. warm water, shallow water, unpolluted/plentiful supply of oxygen etc.)

Level 2 (4–5 marks)
More developed statements describing conditions which have led to coral reef formation.
(e.g. Warm water/seas with temperatures above (20 degrees C), shallow water not more than 60 metres deep, water free from sediment so it clear/sunlight can pass through, unpolluted so there is a plentiful supply of oxygen in water etc.)

Level 3 (6–7 marks)
Uses named example (e.g. Seychelles).
Comprehensive and accurate statements, describing conditions which have led to coral reef formation, including some place specific reference.
(e.g. Indian Ocean shores have temperatures above 20 degrees C, Beau Vallon Bay has shallow water at a depth of 10 metres, water free from sediment so it clear/sunlight can pass through, Beau Vallon Bay is unpolluted as it is not industrialised so there is a plentiful supply of oxygen in water etc.) [7]

[Total: 25 marks]

Page 10	Mark Scheme: Teachers' version	Syllabus	Paper
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4 (a) (i) breakdown of rock 'in situ'/rock is broken down physically or chemically as a result of atmospheric conditions.

     1 mark   [1]

(ii) A. Tropical desert areas = 5B/exfoliation
B. Temperate mountainous areas = 5A/freeze thaw

     2 @ 1 mark   [2]

(iii) Ideas such as:
seeds fall into cracks in rocks;
plants/roots grow in cracks;
cracks widened/rocks broken apart;
organic acids help decomposition of rocks;
animals may burrow/weaken rocks etc.

     3 @ 1 mark   [3]

(b) (i) Features should be evident from photographic evidence.
Ideas such as:
steep crags/cliff;
bare rock/sparse vegetation/tree growing in crack;
grey/light colour;
cracks/fissures/joints/faults;
bedding planes
scree/broken rocks/weathered material at base;
more vegetation at base etc.

     3 @ 1 mark   [3]

(ii) Ideas such as:
carbon dioxide in air reacts with rainwater;
forms carbonic acid/acid rain;
reacts with calcium carbonate/limestone;
pervious/seeps through cracks;
forms calcium bicarbonate/calcium hydrogen carbonate;
which is soluble in water;
widens/deepen cracks etc.

     4 @ 1 mark or development   [4]

(iii) Ideas such as:
Food production/agriculture/grazing;
Scenic beauty/tourist industry;
Extractive industry/building materials;
Human use of wildlife/hunting/fishing;
Educational value;
Forestry etc.

     5 @ 1 mark or development   [5]

Page 11	Mark Scheme: Teachers' version	Syllabus	Paper
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(c) Levels marking

<u>Level 1</u> (1–3 marks)
Statements including limited detail explaining the causes and/or describing the effects of flood/drought/tropical storm.
(e.g. heavy rain, impermeable rocks, flood plains built on, loss of life, damage to property etc.)

NB MAX L1 if example chosen is not in chosen list of hazards (e.g. volcanic eruption).

<u>Level 2</u> (4–5 marks)
More developed statements explaining the causes and/or describing the effects of flood/drought/tropical storm.
(e.g. heavy rain falling over a relatively short period, impermeable rocks encouraging overland flow and rapidly raising river levels, underlying rocks river/constricting flow, loss of life as people drowned, damage to houses and carpets etc.)

<u>Level 3</u> (6–7 marks)
Uses named example (e.g. River Lyn).
Comprehensive and accurate statements explaining the causes and describing the effects of flood/drought/tropical storm, including some place specific reference.
(e.g. thunderstorms associated with frontal depression formed torrential rain – 229 mm near Longstone Barrow on Exmoor, saturated from previous rainfall as it had rained for 12 of the previous 14 days, impermeable rocks of Exmoor encouraging overland flow and rapidly raising river levels, river had been diverted and its channel made narrower due to building of hotels in Lynmouth, bridges over river trapped boulders and formed temporary dams, 34 people drowned, 130 cars and 19 boats destroyed etc.) [7]

[Total: 25 marks]

Page 12	Mark Scheme: Teachers' version	Syllabus	Paper
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5 (a) (i) Employment structure means how the workforce is divided up between employment sectors

1 mark [1]

(ii) A. fishing/mining/agriculture/forestry etc.
B. teaching/nursing/office work/lorry driving etc.

2 @ 1 mark [2]

(iii) Ideas such as:
reduction in primary sector;
increase in tertiary sector;
initial increase followed by decrease in secondary sector

3 @ 1 mark [3]

(b) (i) Input: cattle
Process: slaughtering/canning beef/taking bones from beef etc.
Output: beef/canned beef/boned beef/by-products or examples.

3 @ 1 mark [3]

(ii) Ideas such as:
employment in factory;
multiplier effect;
more money circulating in area/more wealthy people living in the area;
improvements to quality of life or examples (e.g. afford more food/education/health care etc.)
development of transport network;
development of infrastructure/electricity/water supply
availability of products/reduces prices of products;

4 @ 1 mark or development [4]

(iii) Ideas such as:
atmospheric pollution/smoke from factory;
exhaust fumes from lorries;
pollution of rivers/groundwater;
visual impact;
clearance of natural vegetation;
impact on fauna/loss of habitats;
impact on ecosystems/food chains

5 @ 1 mark or development [5]

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Page 13	Mark Scheme: Teachers' version	Syllabus	Paper
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(c) Levels marking

Level 1 (1–3 marks)
Statements including limited detail explaining why high technology industries were attracted (e.g. large workforce, good transport links, cheap land, near international airports, near universities etc.)

NB MAX L1 if example chosen is manufacturing/processing industry not high technology industry.

Level 2 (4–5 marks)
More developed statements explaining why high technology industries were attracted
(e.g. skilled, highly qualified workforce, good motorway links to transport finished products, proximity to international airport to import component parts, large areas of attractive, greenfield sites for employees to live, near universities to obtain skilled workforce etc.)

Level 3 (6–7 marks)
Uses named example (e.g. Malaysia).
Comprehensive and accurate statements including some place specific reference.
(e.g. skilled, highly qualified workforce can be obtained from nearby universities, good motorway links to transport components/finished products, proximity to Kuala Lumpur international airport for business travel, government investment into planned high tech industrial areas such as at Penang (Silicon Island), government 'technology action plan' put emphasis on technology etc.)   [7]

[Total: 25 marks]

Page 14	Mark Scheme: Teachers' version	Syllabus	Paper
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6 (a) (i) Farmer who produces crops/food for himself (and his family)

               1 mark   **[1]**

(ii) A = soils will be better drained/not waterlogged/away from river
B = access to irrigation water/access to rich/muddy soil/close to river

               2 @ 1 mark   **[2]**

(iii) Ideas such as:
drought;
flooding;
hurricanes/cyclones/typhoons;
overcultivation/exhaustion of soils;
overgrazing;
soil erosion;
wars/conflict,
poverty/lack of money (for food/irrigation/fertilizers);
population pressure/lack of farmland etc.

               3 @ 1 mark   **[3]**

(iv) Ideas such as:
irrigate more effectively;
use fertilizers;
use pesticides;
use high yielding varieties of seeds;
plant different varieties of crops which can be harvested at different times of year;
contour ploughing;
leave fields fallow in rotation etc.

               4 @ 1 mark or development   **[4]**

(b) (i) Ideas such as:
increased sales of vegetables (in hotels);
thus regular contracts (dev);
they will make more money;
tourists may buy their produce from stalls on local markets;
thus they can charge higher prices than to locals (dev);
improvement of roads so easier to get crops to market;
development of airport for possible international sales etc.

               3 @ 1 mark or development   **[3]**

(ii) Ideas such as:
increase in local traffic/congestion/atmospheric pollution;
loss of local culture/traditional way of life/offends religions;
drunkeness;
noise;
exploitation/low paid jobs/long hours;
seasonal work;
shortage of water supplies;
litter;
lack of privacy;
loss of farmland for building;
social problems/drugs/prostitution etc.

5 @ 1 mark or development   [5]

(c) Levels marking

<u>Level 1</u> (1–3 marks)
Statements including limited detail which explain why tourist industry developed.

(e.g. hot weather, sunny, low rainfall, nice scenery, beaches, local culture, easy to get to etc.)

<u>Level 2</u> (4–5 marks)
More developed statements which explain why tourist industry developed.

(e.g. long hours of sunshine especially June to September, average temperatures of over 20 °C during summer months, low rainfall April to Oct, clean blue seas, waterfront restaurants/bars, attractive headlands with cliffs, sheltered sandy bays ideal for sunbathing, ease of access via good roads and airport etc.)

<u>Level 3</u> (6–7 marks)
Uses named example (e.g. Algarve).
Comprehensive and accurate statements, which explain why tourist industry developed, with some place specific reference.
(e.g. long hours of sunshine especially June to September, average temperatures of over 20 °C during summer months, low rainfall April to Oct, clean blue seas, waterfront restaurants/bars in resorts like Albufeira, attractive headlands with cliffs at Lagos, sheltered sandy bays ideal for sunbathing, ease of access via good roads and Faro airport etc.)   [7]

[Total: 25 marks]