Cambridge IGCSE®

GEOGRAPHY **0460/01**

Paper 1 Geographical Themes **For examination from 2020**

MARK SCHEME

Maximum Mark: 75

Specimen

This document has **20** pages. Blank pages are indicated.

Generic Marking Principles

These general marking principles must be applied by all examiners when marking candidate answers. They should be applied alongside the specific content of the mark scheme or generic level descriptors for a question. Each question paper and mark scheme will also comply with these marking principles.

GENERIC MARKING PRINCIPLE 1:

Marks must be awarded in line with:

- the specific content of the mark scheme or the generic level descriptors for the question
- the specific skills defined in the mark scheme or in the generic level descriptors for the question
- the standard of response required by a candidate as exemplified by the standardisation scripts.

GENERIC MARKING PRINCIPLE 2:

Marks awarded are always **whole marks** (not half marks, or other fractions).

GENERIC MARKING PRINCIPLE 3:

Marks must be awarded **positively**:

- marks are awarded for correct/valid answers, as defined in the mark scheme. However, credit is given for valid answers which go beyond the scope of the syllabus and mark scheme, referring to your Team Leader as appropriate
- marks are awarded when candidates clearly demonstrate what they know and can do
- marks are not deducted for errors
- marks are not deducted for omissions
- answers should only be judged on the quality of spelling, punctuation and grammar when these features are specifically assessed by the question as indicated by the mark scheme. The meaning, however, should be unambiguous.

GENERIC MARKING PRINCIPLE 4:

Rules must be applied consistently e.g. in situations where candidates have not followed instructions or in the application of generic level descriptors.

GENERIC MARKING PRINCIPLE 5:

Marks should be awarded using the full range of marks defined in the mark scheme for the question (however; the use of the full mark range may be limited according to the quality of the candidate responses seen).

GENERIC MARKING PRINCIPLE 6:

Marks awarded are based solely on the requirements as defined in the mark scheme. Marks should not be awarded with grade thresholds or grade descriptors in mind.

The features of the mark 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 a 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 diagonals to separate alternative answers.

Levels of response marking is used for section **(c)** of each question.

It is the quality of the response that determines which level an answer has 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 level 2 by making developed points without making any level 1 statements. In order to achieve level 3, a candidate must have already reached the top end of level 2 but his/her answer should include a clear example and place-specific information.

Summary:

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

Level 2 (4 to 6 marks):
1 developed statement (4 marks)
2 developed statements (5 marks)
3 or more developed statements with example (6 marks)

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

Level 0 [0 marks]
No creditable response

Question	Answer	Marks
1(a)(i)	17.2 out of 1000 people die per year or in 2013/1.72% of the population died in 2013. Note: South Africa is not needed. Look for 17.2 as an exact figure.	**1**
1(a)(ii)		**2**
	Vietnam	1
	Kuwait	1

1(a)(iii)	Any three from ideas such as (variations in amount/quality of):
	health care/hospital/clinics/medicines;
	number of people per doctor/availability of doctors;
	food supply/diet/famine/starvation;
	water supply/quality/drought;
	sanitation/hygiene;
	diseases or examples/AIDS or HIV;
	wars;
	vaccinations;
	education about healthcare/disease;
	care for the elderly/pensions etc.
		3

1(b)(i)	Steep reduction from 1960 to 2000; levels off after 2000 or Look at the four time periods on the graph and accept any two statements with appropriate dates. steep reduction – Period 1 gentle reduction – Period 2 steep decline – Period 3 levels off – Period 4 1 mark maximum for at least two supporting statistics (e.g. 47 in 1960, 17 in 2000). Can accept a figure for the change with two supporting dates. Note: Reserve 1 mark for statistics. Do not need per 1000. We are not looking for candidates to describe the overall trend (1960–2015).	**3**
1(b)(ii)	Any four from ideas such as: government restricted family size/restricted number of children by the use of two-child limit; people fined/had land taken off them/lost income if they did not follow the policy; contraception/abortions made available or made cheaper; campaigns for people to use contraception/abortions; people concentrating on careers; education of women; education about family planning; later marriages; improvement of infant healthcare/lower IMR; pensions; mechanisation of farms/less agricultural work/more emphasis on secondary and tertiary sector etc.	**4**

Question	Answer	Marks
1(b)(iii)	Any five from ideas such as: they have fallen below replacement level/population decline/death rates higher than birth rates; shortage of workers/shortage of working class/no one to care for the elderly/ shortage of people to exploit the resources; low level of production/businesses fail; difficult to defend country; ageing population/increase in elderly people/lots of old dependents; lack of innovation; closure of schools/nurseries; need to raise more taxes/fewer tax payers/burden on economically active; need to pay more pensions/provide more care homes/provide healthcare for the elderly; economic decline/reduces the economy/less economically active; need to encourage migration etc.	**5**

Question	Answer	Marks
1(c)	**Content Guide** Answers are likely to refer to: not enough housing; water and air pollution; shortage of food and water; high crime rates; not enough health care and education; lack of employment; poverty etc. Place-specific reference is likely to consist of: named parts of the chosen country/locational detail; population data/statistics. Note: Development is of the problem not the causes. The focus is on impacts within the country. **Levels marking** Please ensure that you refer to the marking mechanics section at the front of the mark scheme before marking the level questions. Note: Statistics can be used as development to a maximum of 1 × L2 – 4 marks. This applies to all levels-marked questions. Level 3 [7 marks] Uses named example. Comprehensive and accurate statements including some place-specific reference. Level 2 [4–6 marks] Uses named example. More developed statements which describe the problems caused by over-population. (Note: Maximum 5 marks if no named or inappropriate example) Level 1 [1–3 marks] Statements including limited detail which describe the problems caused by over-population. Level 0 [0 marks] No creditable response.	**7**

Question	Answer	Marks
2(a)(i)	A settlement in the countryside/small settlement/a settlement surrounded by fields/a settlement consisting of only a few houses.	**1**

Question	Answer	Marks
2(a)(ii)	Any two from ideas such as: both are linear/have developed along a road; both are aligned from north–south; both are small/about 400 metres long/around 13–16 buildings/only a few buildings in them; both have large and small buildings; both surrounded by fields etc.	**2**
2(a)(iii)	Any three from ideas such as: separated by countryside/farmland/woodland/fields; buildings are scattered/separated from each other/in small groups/far apart/spread out; no focus/central part of settlement/no roads meet in the middle; no/few services available; low population density/sparsely populated etc.	**3**
2(a)(iv)	Any four from ideas such as: roads from all directions meet/nodal point/crossroads; flat land; no restrictions to development in any direction; presence of a water source/spring/well/lake; mine/natural resource/quarry; bridging point; defensive site etc. Note: The focus of the question is on nucleation rather than growth.	**4**
2(b)(i)	Any three from ideas such as: increase of built-up area; increase in high-class residential area/high-class residential area moved north and west; small settlements swallowed up by urban sprawl/surrounding settlements (or example) became part of urban area; closure of coal mines; increase in industrial sites/or example; new motorway built/M4 built/more roads etc.	**3**

2(b)(ii)	Any five from ideas such as:
	coastal site/port;
	easy import/easy export/transporting products/trade;
	flat, low land for construction;
	coal available;
	fuel smelting/powering of machinery;
	good roads/motorway;
	component factory/tin works provided raw materials/components for other industries/steel for component factory;
	cost of transported raw materials/components was low;
	abundant/skilled workforce;
	market;
	availability of water;
	lots of space/cheap land etc.
		5

Question	Answer	Marks
2(c)	**Content Guide** <u>Answers are likely to refer to:</u> number of services; specific types/examples of services; order of services etc. <u>Place-specific reference is likely to consist of:</u> named settlements; locational details of services; named shops and services etc. **Levels marking** Please ensure that you refer to the marking mechanics section at the front of the mark scheme before marking the level questions. Note: Statistics can be used as development to a maximum of 1 × L2 – 4 marks. This applies to all levels-marked questions. <u>Level 3 [7 marks]</u> Uses named example. Comprehensive and accurate with some place-specific reference. Note: The example can be a named area of any size. Development is of the description. If the answer focuses on a city rather than an area, then award a maximum of 5 marks. <u>Level 2 [4–6 marks]</u> Uses named example. More developed statements which describe the hierarchy of services. (Note: Maximum 5 marks if no named or inappropriate example) <u>Level 1 [1–3 marks]</u> Statements including limited detail which describe the hierarchy of services. <u>Level 0 [0 marks]</u> No creditable response.	**7**

Question	Answer	Marks
3(a)(i)	A process involving the load/materials being dropped/dumped left behind by the waves/the build-up of materials on a beach or by the sea.	1
3(a)(ii)	Any two from ideas such as: are not powerful/are gentle; have a swash that is stronger than the backwash/strong swash/weak backwash; have a long wavelength; are low in height; reach the shore between six and nine times each minute/low frequency; roll onto the beach/do not crash onto it/spilling; build up beach/deposit material/do not erode.	2
3(a)(iii)	Any three from ideas such as: prevailing winds cause waves to approach at an angle to the shore; swash carries loose material up the beach at an angle/in same direction as prevailing wind; backwash takes material back out at 90 degrees/straight back/perpendicular; zigzag motion moves materials along the beach/in the same direction/along the coast.	3
3(a)(iv)	Any four features such as: long and thin/elongated; curved/hooked end; attached to land at one end only; stretches partly across estuary/bay/river mouth; made of sand shingle/may be covered by sand dunes/deposited material; low in height/just above sea level; (salt) marsh develops behind spit etc. Note: Award appropriate ideas on a diagram as long as they are labelled.	4

3(b)(i)	Any three examples of evidence such as:
	
	cliff;
	undercut/uneven profile/notches/jagged;
	cave;
	bay/uneven coastline/headland;
	areas of (fallen) rock at base of cliff/big boulders at base of cliff or near the cliff/rocks broken off the cliff.
		3

Question	Answer	Marks
3(b)(ii)	Any five from ideas such as: rock type; consolidated or unconsolidated rock; hard/strong or soft/weak rock; presence of lines of weakness/joints/bedding planes; whether rocks will be eroded by corrosion or not; wave power/wave type/amount of swash and backwash; presence or absence of coastal defences; distance of fetch; stabilised by vegetation; width of/presence of beach or whether shallow or deep water; shelter; wind strength; wave refraction; impact of other processes e.g. sub-aerial processes etc.	**5**

Question	Answer	Marks
3(c)	**Content Guide** Answers are likely to refer to: hard engineering – sea walls/groynes/gabions/revetments etc.; soft engineering – beach nourishment etc.; types of rocks. Place-specific reference is likely to consist of: locational details; details of named parts of the area; reference to specific schemes/costs etc. **Levels marking** Please ensure that you refer to the marking mechanics section at the front of the mark scheme before marking the level questions. Note: Statistics can be used as development to a maximum of 1 × L2 – 4 marks. This applies to all levels-marked questions. Level 3 [7 marks] Uses named example. Comprehensive and accurate statements which explain what is being done to manage the impacts of coastal erosion, including some place-specific reference. Level 2 [4–6 marks] Uses named example. More developed statements which describe or explain what is being done to manage the impacts of coastal erosion. (Note: Maximum 5 marks if no named or an inappropriate example) Level 1 [1–3 marks] Statements including limited detail which describe or explain what is being done to manage the impacts of coastal erosion. Level 0 [0 marks] No creditable response. Note: Accept any type of erosion including human. The amount of money spent on a scheme is not a suitable development for Level 2 but would be fine for place-specific detail.	

Question	Answer	Marks
4(a)(i)	Rainfall	**1**
4(a)(ii)		**2**
	A wet and dry (bulb) thermometer/hygrometer is used to measure humidity.	1
	A wind vane/weather vane/wind cock/windsock is used to measure wind direction.	1

Question	Answer	Marks
4(a)(iii)	Any three from ideas such as: use a rain gauge/digital rain gauge; collecting jar with funnel/linked to computer; water poured into a measuring cylinder/water is read from jar/measured using a scale; put out in the open/area which is not sheltered by trees/buildings/buried in the ground (maximum one site); take measurements every 24 hours/fixed period/same time of day etc.	**3**
4(a)(iv)	Any four from ideas such as: screen is painted white so that it reflects heat or sunlight/reduces direct heating by the sun/does not absorb sunlight; sides have slats/louvres/have spaces/gaps/not solid so that air can circulate; screen/box is made of wood so that heat is not conducted into it; roof is made of a double layer of wood so that air space maintains a constant temperature; screen stands more than 1 m/raised on legs above the ground so that instruments are not affected by heat from the ground; door opens to the north in the northern hemisphere/to the south in the southern hemisphere to avoid sun's rays. Note: Feature and link is needed.	**4**
4(b)(i)	Any three from ideas such as: hot and dry; temperatures vary from 13 to 33 °C/range of 20 °C; hottest months are June/July/August or coldest months are December/January/February (or one from each) – need two months; rainfall varies from 0 to 18 mm monthly/range of 18 mm; wettest months are December/January/February or driest months are April/May/June (or one from each) – need two months. annual rainfall of approx. 91 mm (accept 80–100 mm); hot and dry in summer and cooler and wetter in winter.	**3**
4(b)(ii)	Any five from ideas such as: overhead sun/high angle of sun/only a small area to heat up/sun's rays are more concentrated; high air pressure; descending air; air heats as it descends; therefore no condensation; little or no surface water; little or no evaporation; little or no transpiration/evapotranspiration; wind direction over large areas of land/trade winds; rain shadow effect; cold ocean currents; distant from sea/landlocked etc.	**5**

Question	Answer	Marks
4(c)	**Content Guide** <u>Answers are likely to refer to:</u> root systems; spines/thorns, plants remain dormant until rain falls; fleshy stems; waxy leaves etc. <u>Place-specific reference is likely to consist of:</u> locational details; specific named plant types – accept cactus. **Levels marking** Please ensure that you refer to the marking mechanics section at the front of the mark scheme before marking the level questions. Note: Statistics can be used as development to a maximum of 1 × L2 – 4 marks. This applies to all levels-marked questions. <u>Level 3 [7 marks]</u> Uses named example. Comprehensive and accurate statements, which describe and explain the characteristics of natural vegetation of hot deserts, including some specific reference. <u>Level 2 [4–6 marks]</u> Uses named example. More developed statements which describe and explain the characteristics of natural vegetation of hot deserts. Note: Award a maximum of 5 marks if: no named example is given; an inappropriate example is given; the name of a country is given rather than a desert area. <u>Level 1 [1–3 marks]</u> Statements including limited detail which describe and/or explain the characteristics of natural vegetation of hot deserts. <u>Level 0 [0 marks]</u> No creditable response.	**7**

Question	Answer	Marks
5(a)(i)	1st – Canada 2nd – Brazil 3rd – China 4th – Sudan	**1**
5(a)(ii)	Ideas such as: generally higher in North America; more variation in South America.	**2**
5(a)(iii)	Any three from ideas such as: it takes into account a variety of factors/uses more than one indicator; life expectancy/education (numbers of years in school) are used to give a better index of development than income alone; easy to carry out statistical comparisons between countries/change over time etc.	**3**

5(a)(iv)	Any four from ideas such as:
	
	length of time in which development has been occurring;
	impacts of colonisation;
	presence/absence of raw material/resources or examples;
	development of a specific economic activity such as tourism, mining or manufacturing;
	accessibility/presence of port/land-locked/transport;
	government policies;
	political system/level of corruption;
	levels of education/skills of workforce;
	investment/aid from other countries/loans;
	trade policy/free trade;
	presence of transnationals;
	wars/civil unrest;
	reliance on low-value primary products;
	over-reliance on one product;
	AIDS/HIV (not other named diseases) etc.
		4

5(b)(i)	Ethiopia has the lowest percentage of people who can read and write. (1) Tanzania is likely to have the poorest access to a doctor. (1) Ethiopia has the lowest energy use per person. (1)	**3**

Question	Answer	Marks
5(b)(ii)	1 mark for South Africa or Egypt. 4 further marks for reasoning such as: South Africa uses the largest amounts of energy; which indicates the presence of industry; so GNP per capita will be higher than in the other countries; literacy is highest; which indicates that the population is well educated; the number of doctors is greater than five of the other countries/high number of doctors; so health care is likely to be good etc. Egypt has the highest life expectancy; which indicates good healthcare/diet etc.; number of doctors is highest; doctors are more available/diseases are more readily treated; third highest energy use/energy use is high: which indicate the presence of industry; so GNP per capita will be higher than in other countries. Note: Candidates need to describe the indicator in order to then go on to access the development mark.	**5**

Question	Answer	Marks
5(c)	**Content Guide:** Answers could refer to: employment; economic growth; infrastructural development; exploitation; environmental destruction etc. Place-specific reference is likely to consist of: locational details; specific details of transnational; named settlements etc. **Levels marking** Please ensure that you refer to the marking mechanics section at the front of the mark scheme before marking the level questions. Note: Statistics can be used as development to a maximum of 1 × L2 – 4 marks. This applies to all levels-marked questions. Level 3 [7 marks] Uses named example. Comprehensive and accurate statements, which describe the positive and negative impacts of a transnational corporation, including some place-specific reference. Must have both positive and negative but one can be at Level 1. Level 2 [4–6 marks] Uses named example. More developed statements which describe the positive and/or negative impacts of a transnational corporation. (Note: Maximum 5 marks if no named or inappropriate example) Level 1 [1–3 marks] Statements including limited detail which describe the positive and/or negative impacts of a transnational corporation. Level 0 [0 marks] No creditable response. Note: The focus of the question is advantages and disadvantages for the country and not the transnational corporation.	

Question	Answer	Marks
6(a)(i)	Something which spoils the beauty of the landscape/an eyesore/pollution that is visible to the eye/pollution that you can see/makes the landscape look unsightly.	**1**
6(a)(ii)	<u>Ideas such as:</u> deforestation/clearance of vegetation; overgrazing; leaving areas of land fallow; ploughing up and down the slope; monoculture/overcultivation.	**2**
6(a)(iii)	Any three from ideas such as: manufacturing: disposal of (toxic) waste by manufacturing industry/dirty or waste water; transport: oil spills from tanker accidents/washing out fuel tanks/fuel spills; power stations: return of hot water to rivers from power stations/radioactive water to sea from nuclear power stations; agriculture: run-off of fertilisers/pesticides from farmland/animal waste or slurry etc. Note: Do not double-credit. Three distinct ideas are needed. Acid rain would be acceptable in any of the three. No mark for the economic activity but candidates must name an economic activity.	**3**
6(a)(iv)	Any four from ideas such as: fumes from burning of fossil fuels or coal; clearance of vegetation; gives off carbon dioxide/greenhouse gases; carbon dioxide cannot be converted to oxygen; methane from grazing/rice paddies; greenhouses gases/carbon dioxide build-up in atmosphere; sun's rays pass through the layer of gases; but are trapped/cannot escape etc.	**4**
6(b)(i)	Any three from ideas such as: uses fewer resources/less demand for resources or example/there are fewer resources wasted; saves resources for the future; can use resources again/make more use; resources last longer; saves energy; waste products become useful. Note: Repeat of the three words is acceptable as long as it is in context.	**3**

Question	Answer	Marks
6(b)(ii)	Any five from ideas such as: many are non-renewable/will run out/are finite; life in future would not be possible without clean water; life in future would not be possible without clean air; life in future would not be possible without land for cultivation; to protect habitats; conserving the natural environment will ensure ecosystems remain in balance; species do not become extinct/animals do not die; to prevent global warming/acid rain/desertification etc.; creates conflict/civil rest; forests act as carbon sinks. Note: Candidates can develop the global warming, acid rain, desertification etc. line to a maximum of 1 mark.	**5**

Question	Answer	Marks
6(c)	**Content Guide** Answers are likely to refer to: power stations; fossil fuels; domestic supplies and imports; renewable energy; production methods. Place-specific reference is likely to consist of: locational details; named areas/settlements within the country; statistics etc. **Levels marking** Please ensure that you refer to the marking mechanics section at the front of the mark scheme before marking the level questions. Note: Statistics can be used as development to a maximum of 1 × L2 – 4 marks. This applies to all levels-marked questions. Level 3 [7 marks] Uses named example. Comprehensive and accurate statements which describe how energy is supplied, including some place-specific reference. Level 2 [4–6 marks] Uses named example. More developed statements which describe how energy is supplied. (Note: A maximum of 5 marks can be awarded if no named example or an inappropriate example is given.) Level 1 [1–3 marks] Statements including limited detail which describe how energy is supplied. Level 0 [0 marks] No creditable response. Note: Focus is on supply not uses. Candidates can achieve full marks from one energy source. Development is of the description.	**7**

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