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Cambridge Assessment International Education

Cambridge IGCSE™

GEOGRAPHY **0460/21**

Paper 2 Geographical Skills **October/November 2022**

MARK SCHEME

Maximum Mark: 60

Published

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 should be read in conjunction with the question paper and the Principal Examiner Report for Teachers.

Cambridge International will not enter into discussions about these mark schemes.

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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.

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Question	Answer	Marks
1(a)(i)	(Current or former) place of worship/church with tower	**1**
1(a)(ii)	Multiple track railway; Warehouses.	**1**
1(a)(iii)	Road more than 4 m wide; Beith.	**1**
1(a)(iv)	71 (metres)	**1**
1(b)(i)	1 km^2	**1**
1(b)(ii)	Fishing; Nature reserve; Visitor centre; Parking; Public house; Golf club or links; Castle; Loch.	**3**
1(c)(i)	45 mm (43–47 mm) from left hand axis Use the ruler device to measure distance. Arrows should end within 1 cm of the cross-section. Measure to the point that the arrow projects to. The arrow should project to the profile and not the base line. There should be no ambiguity.	**1**
1(c)(ii)	Rises to 75–85 (metres); Falls on west to 60–65 (metres).	**2**
1(d)	Sparsely populated; Dispersed/scattered/spread out; Hamlets; Farms/isolated dwellings/isolated buildings; On higher land/top of hills; More than 50 (metres) above sea level; On gentle(r) slopes; No settlements along Dipple Burn; Along roads/linked by roads.	**5**
1(e)	On gentle(r) slopes; On higher land; 50–110 (metres); NW facing; At meeting point/junction/intersection of roads/route centre; Near streams/rivers/burns; Overlooking/1 km to the Loch.	**4**

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Question	Answer	Marks
2(a)	Densely: No pattern; In northern hemisphere/in north; Few/sparse; 3 countries/areas; In Asia; In Europe; Coastal. Sparsely: Far north/far south; In every continent/throughout world/widely distributed; All of Australasia.	**4**
2(b)(i)	Correctly drawn line at 90% (no tolerance) or 94% (1° tolerance) too wet = 36°; Correctly shaded: biggest segment (crossed diagonals) too wet, smallest segment (horizontal dashes) permafrost; Accept any order. Use the protractor tool.	**2**
2(b)(ii)	Very important/depends on soil; Only small proportion can be cultivated; Large area of world has soil problems which limits agriculture/most not suitable; Smallest impact is permafrost; Main problems are too dry/lacks minerals/too thin.	**2**

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Question	Answer	Marks
3(a)	Main source of carbon monoxide is road transport however for nitrogen oxides it is shipping and electricity generation; Road transport contributes more carbon monoxide than nitrogen oxide; Shipping contributes more nitrogen oxide than carbon monoxide; Electricity generation contributes more nitrogen oxides than carbon monoxide; Aircraft produce the least proportion of air pollutants; 'Others' make up a larger % for carbon monoxide than nitrogen oxides; Road transport (and shipping) are the main source of pollutants. Must be comparative.	**3**
3(b)	Wider roads/dual carriageways/more roads so more traffic can travel; Underpass/subway to allow traffic to flow/create additional road; Public transport to reduce number of cars; Pedestrian bridge to stop traffic being held up/separating pedestrians from traffic; Yellow lines to prevent parking which would slow traffic; Bus stops off road to prevent holding up traffic; Plants on side of road take in CO_2; Large pavements so people are encouraged to walk. Must explain how solutions prevent traffic congestion. Explanation cannot be 'congestion'. Two ways listed above only–1 max, if no other marks awarded.	**3**
3(c)	People need to travel to work/shopping/leisure; Journeys are made at different times; Fastest way to travel/saves people time; Public transport system is not extensive enough; Allows travel to exact destination; Gives people independence/freedom to travel when they want/flexibility; Public transport expensive; Safest way to travel (e.g., in a pandemic)/people feel safer than travelling with people they don't know; More privacy compared with public transport.	**2**

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Question	Answer	Marks
4(a)	True/partially true/true to some extent (or converse); Overall increase over time; Large increase since 1960/increase up to 1990; Largest increase 1970–1980; Largest decrease 2000–2010; Higher from 1960/lower before 1960; The numbers fluctuate over time; Only shows data since 1890; Numbers reducing recently/since 1990; 1890–1900–1950–1960 constant. 1 mark reserve for statistics exemplifying a point.	**4**
4(b)	Fertile land/good for agriculture; Family and friends live there/always lived there; Rely on warning systems/think the eruption won't happen again; Income/jobs from tourism/e.g., of job; Religious reasons; Cannot afford to move away; Volcanoes are dormant/think eruption won't happen/used to it/unaware of dangers; Geothermal power/electricity for heating; Hot water/springs; Minerals/mining/source of building materials; Gentle slopes for building/farming.	**4**

Question	Answer	Marks
5(a)	High temperatures/hot; 27–29 degrees C; Low temperature range/constant/range of 2 degrees C; High/heavy rainfall; 150–270 mm per month; Annual rainfall over 2000 mm/2300–2400 mm per year; Rainfall all year; No seasons/lack of difference between seasons.	**4**
5(b)(i)	Vegetation	**1**
5(b)(ii)	From rain; From weathered rock.	**1**
5(c)	Overland flow: Leaves intercept/catch/rainfall; Roots create cracks in soil increasing infiltration/roots absorb/take up water. Soil erosion: Roots bind/anchor soil; Prevent rain splash; Slowing down runoff by increasing infiltration.	**2**

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Question	Answer	Marks
6(a)	Intensive	**1**
6(b)	Arable/crop farming; Crops/trees in rows; One type of crop/monoculture; Shaded by trees; Coconut/palm trees; Small scale; Manual work/by hand/single worker; Terracing/stone walls.	**4**
6(c)	Poverty (consumers cannot buy/farmers lack seeds, machinery); Inflation (consumers cannot buy/farmers lack seeds, machinery); Tax increase so cannot afford food; Cannot afford to <u>import</u> food; Food aid not supplied by government/other countries; Less food produced leads to higher prices; Cash crops for export reduces available land; Country can't afford/lack of loans/grants/subsidies/funding for farmers; Transport system not developed so distribution is difficult; Government corruption diverts food/money/aid; Wars/conflicts/divisions destroys food crops/reduces number of farmers/prevents movement of food to areas in need; Lack of land/small plots of land which are uneconomic; Change of land use to industry/housing reduces land for agriculture; Lack of agricultural labour as people move to cities to work. Two ways <u>listed above</u> only – 1 max. if no other marks awarded.	**3**

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