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Cambridge Assessment International Education
Cambridge International General Certificate of Secondary Education

GEOGRAPHY **0460/12**

Paper 1 **October/November 2019**

MARK SCHEME

Maximum Mark: 75

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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This syllabus is regulated for use in England, Wales and Northern Ireland as a Cambridge International Level 1/Level 2 Certificate.

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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)	International migration involves (movement) between countries **but** internal migration occurs within a country/area to area. 1 mark	**1**
1(a)(ii)	**International migration:** Bolivia to USA/Spain/Argentina; Europe/Brazil/Paraguay to Bolivia/Santa Cruz. **Internal migration:** Andes/Andean regions/La Paz/Cochabamba **to** Santa Cruz. 2 @ 1 mark	**2**
1(a)(iii)	Ideas such as: Work/jobs/business opportunities; Health care/medical services/hospitals/clinics; Education facilities/schools; Farmland. 3 @ 1 mark	**3**
1(a)(iv)	Difficulties such as: Finding somewhere to live/poor quality housing/shanty towns or examples of problems within them e.g. poor sanitation; Language problems; Jobs are hard to obtain/low paid; Racial/religious discrimination/hostility/taking jobs; Away from family/friends/don't know people; Hard to adapt to/different culture/religion; High cost of living/can't afford food/schooling/healthcare/water; Threat of deportation/difficult to get legal documents, etc. 4 @ 1 mark	**4**
1(b)(i)	Amenities such as: Restaurants; Food shops; Meeting places/places to watch TV; Football leagues/teams/pitches. 3 @ 1 mark	**3**
1(b)(ii)	Ideas such as: Remittances sent back; Benefit from winnings/donations from football leagues in USA; For investment in schools/infrastructure/churches; Less pressure on employment; Less pressure on healthcare; Less pressure on food supply; Less pressure on water supply;	**5**

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Question	Answer	Marks
	Less pressure on education; Empty houses; Schools close; Shops close/less customers in shops; New skills brought back; Gender imbalance/less partners; Imbalance in age structure/mainly old and young are left/higher dependent population; Family breakdowns; Brain drain/loss of skills/less workforce or examples; Impact on culture-positive or negative; Village or country economy develops, etc. 5 @ 1 mark or development	

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Question	Answer	Marks
1(c)	Levels marking Level 1 (1–3 marks) Statements including limited detail which explain why natural population growth rates are high. e.g. Lack of/don't use contraception = L1 as are too expensive/don't know about (becomes L2), however, without lack of contraceptive idea then lack of knowledge about contraception (L1) and contraception too expensive (L1). e.g. Birth rate greater than death rate = L1 Note: Can develop this statement with use of statistics for a L2 but do not credit development of this point e.g. high birth rate due to lack of birth control does not equal L2. Level 2 (4–6 marks) More developed statements which explain why natural population growth rates are high. Use of valid statistics – must be BR and DR only (max. 1 × L2). (Note: Max. 5 if no named or inappropriate example) Level 3 (7 marks) Uses named example. Comprehensive and accurate statements which explain why natural population growth rates are high, including some place specific reference. Content Guide: Answers are likely to refer to: (High birth rates due to …): Lack/use of contraceptives (availability/cost/education); Lack of/don't use/no contraceptives (L1) Religious influences; Cultural influences; Infant mortality; Children sent out to work (on land/in homes/on streets etc); Lack of pensions, etc. (Declining death rates due to …): Better health care; Improvements in sanitation; Improvements in water supply; More food supply, etc. Place specific reference is likely to consist of: Named parts of the chosen country; Population data; Statistics, etc.	**7**

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Question	Answer	Marks
2(a)(i)	Fig. 2.2	**1**
2(a)(ii)	Fig. 2.1/New York/Stock Exchange Fig. 2.3/Punjab Textiles/Chatsworth Street Fig. 2.2/Pharmacy/Gun Hill All correct = 2 marks 1 or 2 correct = 1 mark 2 @ 1 mark	**2**
2(a)(iii)	Fig. 2.1 = City/conurbation/capital Fig. 2.2 = Village Fig. 2.3 = (Small) Town 3 @ 1 mark	**3**
2(a)(iv)	Ideas such as: There are similar services closer to home/there are many of these services/found in a lot of places; Items are low cost/low order; Services are used frequently/daily; They sell convenience goods/necessity; It is not worth the expense of travelling to them, etc. 4 @ 1 mark	**4**
2(b)(i)	Ideas such as: Positive relationship/the greater the population size the more services; e.g. Hamlets have fewer services than towns or cities which have larger populations or other relevant examples; Some anomalies/relationship is not perfect. 3 @ 1 mark	**3**
2(b)(ii)	Ideas such as: Larger settlements are able to support/have a demand for/need more services; Services will not be viable/make a loss/less economic/profitable if there are few people; Larger settlements have a larger sphere of influence; People will travel from elsewhere to use services in larger settlements; Many people will travel to work in larger settlements and use their services; Larger settlement is better served by transport network so people will be able to travel there to use services, etc. 5 @ 1 mark or development	**5**

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Question	Answer	Marks
2(c)	Levels marking Note: one problem only, if more than one then credit the best answer. Level 1 (1–3 marks) Statements including limited detail which describe the causes of an urban problem and/or explain how authorities are attempting to solve it. Note: no credit at L1 for listing problems. Level 2 (4–6 marks) More developed statements which describe the causes of an urban problem and/or explain how authorities are attempting to solve it. Use of valid statistics (max. 1 × L2); Note: simple cause and solution = 2 × L1 and not 1 × L2; Max. 5 if no named or inappropriate example. Level 3 (7 marks) Uses named example. Comprehensive and accurate statements which describe the causes of an urban problem and explain how authorities are attempting to solve it, with some place specific reference. Content Guide: Content will depend on the problem selected and these are likely to relate to urban problems such as: Traffic issues, Inequality, Housing issues, Conflicts over land use change, Specified pollution, Crime, Poverty, Unemployment. These are the problems listed in the syllabus, but the list is not exhaustive, and all examples used should be credited if appropriate causes and solutions are referred to. Place specific reference is likely to consist of: Locational details, Specific details of the urban area chosen, etc.	**7**

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Question	Answer	Marks
3(a)(i)	Barometer	**1**
3(a)(ii)	Ideas such as: They are more accurate/reliable/precise; It is quicker/easier/faster to use/read them; There is less chance of human error; They can automatically plot results, etc. 2 @ 1 mark	**2**
3(a)(iii)	Ideas such as: Wooden construction; Painted white; Slatted/louvres/air holes/ventilation; Insulated roof/2 layers on roof; Above ground level/on legs/1.25–2 metres. 3 @ 1 mark	**3**
3(a)(iv)	Factors such as: Away from buildings/in the open/not sheltered; Away from trees/in the open/not sheltered (only credit ‘in the open’ and ‘not sheltered’ once); On grass/not on concrete/ground type; Security/fence around; Doors open away from sun/direction doors face. Explanations as appropriate to factors such as: So, it is not sheltered; So is not shaded; To avoid ground radiation; So, don’t block wind; So not tampered with, etc. 1 mark for stating the factor, and another mark for explaining why it is important Note: No mark for explanation without factor. 2 @ 2 marks	**4**
3(b)(i)	(Campbell Stokes) sunshine recorder (Reserve mark); Insert/replace card/paper; Leave for/check after 24 hours/set period of time; Measure/record/see/observe length of burn line on card, etc. Note: Credit explanation even if name of instrument is incorrect. 3 @ 1 mark	**3**

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Question	Answer	Marks
3(b)(ii)	Ideas such as: Choose set/the same times during the day/at a given time/examples of times; Observe at several times each day/e.g. early morning, midday and late afternoon; Look up at the sky; Identify cloud types using an identification chart/looking at vertical extent/shape of clouds; Estimate cover/use a grid to look through; Record names/cover of cloud types in table/chart/diary; Record cloud cover in oktas/eighths, etc. Note: Development must be what the student does, not for example for naming cloud types. 5 @ 1 mark or development	**5**

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Question	Answer	Marks
3(c)	Levels marking Level 1 (1–3 marks) Statements including limited detail which describe the impacts of a tropical storm. Level 2 (4–6 marks) Uses named example. More developed statements which describe the impacts of a tropical storm. Use of valid statistics (max. 1 × L2). (Note: Max. 5 if no named or inappropriate example) Level 3 (7 marks) Comprehensive and accurate statements including place specific information. Content Guide: Answers are likely to refer to: Death/injury, Damage to homes, Loss of property/possessions, Flooding, Damage to vegetation, Roads/railways blocked, Electricity supply disrupted, Economic impacts, Secondary/long term impacts, etc. Place specific reference is likely to consist of: Locational details, Specific details of the areas affected, Statistical information e.g. deaths/damage, Name of storm/date, etc.	**7**

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Question	Answer	Marks
4(a)(i)	St Louis is at the confluence of the Mississippi and Missouri. 1 mark	**1**
4(a)(ii)	Ideas such as: It is (further) downstream/at/nearer mouth; Several tributaries have joined the Mississippi by then; It is likely to have a large flood plain/flat/low land around the river. 2 @ 1 mark	**2**
4(a)(iii)	Impacts such as: Roads/railways/bridges flooded/impassable/destroyed; Farmland flooded/loss of crops/food shortages/soil eroded; Farm animals die/drown/need to be rescued; Loss of lives/people drown; Electricity supply disrupted; Water supply contaminated/waterborne diseases or example; Homes/buildings/villages/settlements/personal possessions destroyed/flooded; Natural vegetation/trees/habitats/wildlife destroyed; Fertile soils/land, etc. 3 @ 1 mark	**3**
4(a)(iv)	Ideas such as: Build a dam/reservoir (upstream); Levees/embankments/barriers; Sandbags; Dredging; Overflow channels; Use sluice gates/spreading areas upstream; Straighten the river/line with concrete; Tree planting/reduce deforestation; Monitoring/prediction/early warning/alarms/evacuation; Land use zoning/keep grassy areas near rivers; Build on stilts/housing design, etc. 4 @ 1 mark	**4**
4(b)(i)	Characteristics such as: Curved/horseshoe/crescent/semi-circle/backward C; North–south orientation; Long and thin; Width approximately 0.5 to 1 km; Length approximately 10–16 km; Small island; Wider in middle/south/narrower at ends, etc. 3 @ 1 mark	**3**

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Question	Answer	Marks
4(b)(ii)	Ideas such as: River flows around a meander/formed from meander; Erosion on outer bends; Due to faster flowing water; Hydraulic action/abrasion (or description of process); Helicoidal/helical flow; Deposition on inside bends; Due to slower flowing water; River becomes more sinuous/winding/extreme meander; Neck of meander reduced in thickness; Eventually river erodes across neck/river flows straight on/cuts off meander; During time of flood; Deposition seals former meander, etc. Credit either text or labelling on diagram but do not award double credit. 5 @ 1 mark or development	**5**

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Question	Answer	Marks
4(c)	Levels marking Level 1 (1–3 marks) Statements including limited detail which describe the benefits of living on a flood plain or delta. e.g. transport (L1). e.g. jobs in tourism (L1). Level 2 (4–6 marks) Uses named example. More developed statements which describe the benefits of living on a flood plain or delta. Use of valid statistics (max. 1 × L2). e.g. fertile soils and plant crops (L2). e.g. jobs in tourism give income to locals/allow them to pay for schooling (L2). (Note: Max. 5 if no named or inappropriate example). Level 3 (7 marks) Comprehensive and accurate statements, including some place specific details. Content Guide: Answers are likely to refer to: Fertile soils, Transport routes, Flat land, Domestic water supply, Irrigation, Fishing, Jobs in tourism, Jobs in industry, etc. Place specific reference is likely to consist of: Locational details, named places alongside river/country name/area, etc.	**7**

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Question	Answer	Marks
5(a)(i)	How the population is divided up by the type of work they do/in which sector people are employed/proportion in each economic sector/employment in primary, secondary, tertiary. 1 mark	**1**
5(a)(ii)	Manufacturing industry = e.g. iron and steel/cars/textiles/food processing/sugar refining/making of relevant product/named industry e.g. Toyota, etc. Service sector = e.g. banker/teaching/nurse/shopkeeper/cleaner/taxi driver/working in a school. Note: not a named industry here but look for worker/working at/in or example, etc. 2 @ 1 mark	**2**
5(a)(iii)	Ideas such as: Increase in service/tertiary sector; Decrease in manufacturing/secondary; Decrease in agriculture/primary. 3 @ 1 mark	**3**
5(a)(iv)	Ideas such as: Automation/hi-tec/mechanisation of/use of technology in agriculture/e.g. tractors; Automation/hi-tec/mechanisation of/use of technology in manufacturing/e.g. assembly line; More foods/manufactured goods are imported/no need to be self-sufficient; Improved education/skills; Growth of tourism; More demand for services; Raw materials running out, etc. 4 @ 1 mark	**4**
5(b)(i)	Ideas such as: Mainly/most in Africa; Except Egypt and South Africa/except in North and South; A few/some in Asia; Near/on equator/mainly in tropics/between Tropics of Cancer and Capricorn/Central Africa/sub-Saharan Africa; Uneven/clustered. 3 @ 1 mark	**3**

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Question	Answer	Marks
5(b)(ii)	Ideas such as: Poor water supply is likely to slow down/hinder development; Dehydration; Many people will have water borne diseases; E.g. cholera/typhoid/bilharzia; People will not be able to work/be educated; Money will be spent on treating disease/dehydration; There may be a lack of water for use in agriculture/irrigation; Yields of crops/livestock will be low/lack of food; There will be little surplus for sale/export; There will be insufficient water for development of some manufacturing industries; Insufficient water for HEP; Pay to import water/cost of reservoirs/buy bottled water, etc; Conflict over water supplies, etc. 5 @ 1 mark or development	**5**

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Question	Answer	Marks
5(c)	Levels marking Level 1 (1–3 marks) Statements including limited detail which identify different methods of energy supply. e.g. coal = L1, oil = L1, renewables = L1 Level 2 (4–6 marks) More developed statements which describe and/or explain the importance of different methods of energy supply. Use of valid statistics (max. 1 × L2) (Note: Max. 5 if no named or inappropriate example) (Note: Max. 6 if only one energy) Examples of development as appropriate to energy type: Renewable; availability of hot rocks/coal reserves/dams or example; have other energy sources to rely on; Government policy; lack of air pollution, etc. Level 3 (7 marks) Uses named example. Comprehensive and accurate statements, including some place specific reference. Content Guide: Answers are likely to refer to methods such as: Fossil fuels (e.g. oil, coal, natural gas), Power stations, Renewable forms of energy (e.g. wind, wave power, HEP), Geothermal, Nuclear power, Wood/charcoal, etc. Note: Do not credit how the energy is used. Place specific reference is likely to consist of: Locational details/named areas within country/country if named area in example chosen Specific details/locations of energy supplies, Statistics, etc.	**7**
6(a)(i)	The process by which fertile land becomes less productive/makes surface unsuitable for vegetation to grow/land becomes desert/dry/arid. 1 mark	**1**

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Question	Answer	Marks
6(a)(ii)(A)	Ideas such as: Less rain falls/drought/rapid evaporation; Plants do not grow/die/soil becomes bare, etc. Note: Credit 'soil becomes bare' once only – in **6(a)(ii)(A)** or **6(a)(ii)(B)**. 2 @ 1 mark	**2**
6(a)(ii)(B)	Ideas such as: More food is needed; Areas are overgrazed/overcultivated; People need more fuel/homes/settlements; Trees are cut down/soil/land becomes bare. Note: Credit 'soil becomes bare' once only – in **6(a)(ii)(A)** or **6(a)(ii)(B)**. 3 @ 1 mark	**3**
6(a)(iii)	Methods such as: Limit size of herds/rotate grazing land; Plant trees/shelter belts/afforestation; Contour ploughing/ploughing across slope; Education about agricultural techniques; Crop rotation; Terracing; Maintain soil cover/plant drought resistant plants; Mulching; Micro HEP project/small scale cookers. Note: Do not accept do nots for methods e.g. do not overgraze, stop deforestation. <u>Explanations as appropriate to method such as</u>: So, less overgrazing; Roots bind soil; So, less soil erosion; Less surface runoff; So, less deforestation; Improve soil fertility, etc. Note: Don't credit explanation if no appropriate method. Credit one mark for identification of each strategy and another mark for an explanation. 2 @ 2 marks	**4**
6(b)(i)	Ideas such as: More/build up of greenhouse gases/ or named examples/chemical symbols; More heat trapped;	**3**

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Question	Answer	Marks
	Less heat escapes, etc. 3 @ 1 mark	
6(b)(ii)	Ideas such as: Burning of fossil fuels; E.g. oil/coal; Cars/engines; Aircraft emissions; Deforestation/forest fires; Reduces capacity of vegetation to convert carbon dioxide to oxygen/absorb carbon dioxide/gases; Methane from rice fields/grazing livestock; Thermal/coal/oil/gas power stations/electricity generation; Industry/manufacturing/industrialization, etc. 5 @ 1 mark or development	**5**
6(c)	Levels marking <u>Level 1</u> (1–3 marks) Statements including limited detail which describe the problems of global warming. e.g. flooding = L1 <u>Level 2</u> (4–6 marks) More developed statements which describe the problems of global warming. e.g. flooding of low lying/coastal land = L2 e.g. ice melts and sea level increases = L2 Note: Max. 5 if no place references. Max. 6 if one place reference. <u>Level 3</u> (7 marks) Comprehensive and accurate statements which describe the problems of global warming, including some place references. Must refer to two place references. <u>Content Guide</u>: Answers are likely to refer to: Changing rainfall patterns/drought/desertification; Difficulty producing food; Lack of water supplies; Melting of ice caps/glaciers; Impacts on species/biodiversity/food chains; Flooding of coastal lowlands; Spread of tropical diseases to other areas; Loss of habitat;	**7**

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Question	Answer	Marks
	Heat stroke, etc.	

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