Cambridge Assessment International Education

Cambridge IGCSE™

GEOGRAPHY **0460/13**

Paper 1 **May/June 2021**

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.

Cambridge International is publishing the mark schemes for the May/June 2021 series for most Cambridge IGCSE™, Cambridge International A and AS Level components and some Cambridge O Level components.

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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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Each question carries 25 marks. Candidates cannot earn above the maximum marks available within each sub section.

The marking scheme attempts to give guidance about the requirements of each answer and lists a number of responses, which will earn marks along with the general principles to be applied when marking each question.
It should be noted that candidates can earn marks if their answers are phrased differently provided they convey the same meaning as those in the mark scheme. THE CANDIDATES DO NOT NEED TO USE THE SAME WORDING TO EARN MARKS.

The notation 'etc' at the end of an answer in the mark scheme signifies that there may well be other correct responses or examples that can be given credit. Providing the statement is true, relevant to the question asked and not repetition of a previous point made credit should be given.

A point made within one sub-section which is an answer to the question set in a different sub-section should not be given credit as each sub-section asks different questions which require independent answers.

The mark scheme uses semi colons (;) to separate marks and diagonals to separate alternative answers.

During coordination the mark scheme may need to be modified to add points agreed after discussion or to note any points not allowed. All examiners should ensure that their modified scheme is fully up-to-date before marking begins.

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 where a mark has been allowed. Where a development point has been allowed the symbol "DEV" should be placed adjacent to the tick. The number of ticks should always be equal to the total number of marks awarded. Only one development mark for each mark scheme point please.

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).

Crosses are acceptable to signify wrong answers and the letters 'I/R' should be used to indicate those which are irrelevant.

Levels of response marking is used for section (c) of each question.
Thus it is the quality of the response that 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.

Levels 1 and 2 are distinguished by whether statements are simple (level 1) or developed/elaborated (level 2). A candidate can immediately enter L2 by making developed points without making any L1 statements. In order to achieve L3 a candidate must have already reached the top end of L2 – in addition his/her answer should have a clear example and if the answer is place specific as well (7 marks). Highlight place specific detail.

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Where statements are assigned levels by the examiner this should be indicated by the use of L1 and L2 next to the statements. Ticks should **not** be used on answers that are marked using levels of response marking. L1 annotation should be removed once a L2 is awarded for an answer. L3 annotation is not used. There is no need for a summary level at the end of a response.

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

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

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

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Question	Answer	Marks
1(a)(i)	7 (%) No tolerance 1 mark	**1**
1(a)(ii)	In urban Ifakara it's larger/there are more/has larger percentage/more people live longer; In urban Ifakara less gender balance/has more female than males/females live longer than males(but rural is more balanced); In urban Ifakara age bands decrease less rapidly; Note: Answers can relate to urban or rural. If 'it/there' must be clear if they are referring to urban or rural. 2 @ 1 mark	**2**
1(a)(iii)	**Birth rate is high in rural Ifakara:** The base of the pyramid is wide; More/there are large numbers of young dependents/lots of babies/children/0–4 year olds; Note: Do not credit reference to 5–9/10–14 years **Life expectancy is low in rural Ifakara:** Narrow top/apex/there are few old people/small percentage living above 65 years or reference to a single age band/no people live above 85 years; Pyramid shape/concave/steep sloping (sides)/most of/many population in the young dependents/under 40 years; **Many men have migrated from both rural and urban Ifakara:** There are more females/less males; Note: Do not credit statistics, but accept 'only' with statistics if appropriate. 3 @ 1 mark	**3**

Question	Answer	Marks
1(a)(iv)	Ideas such as: Lack of availability/affordability/use of contraception/family planning; Less education about contraception/family planning; Religious intolerance of contraception/abortion; Lack of availability of abortion; Less women working/girls being educated; High infant mortality; No pensions/young needed to support elderly; Children sent out to work/earn money/for farming; Need children to work in house/collect firewood/water/to look after younger children; Early marriage/many people have children early in life; Lack of Government anti-natal policy/difficult to enforce policy; Females not allowed to make decisions/no emancipation; Large families are traditional/gift of God/prestige/evidence of virility; Polygamy. etc. 4 @ 1 mark	**4**
1(b)(i)	Ideas such as: Long distance from the hospital/no hospital/there is no health care; Long distance from the health centre/no health centre/there is no health care (credit 'health care' once on either 1st or 2nd line of MS); Long distance from the pharmacy/chemist or no pharmacy/chemist; No rail/road link/cut off so people would have to walk to/difficult to get to hospital/health centre/pharmacy/chemist/health facility; Mosquitos/insects/malaria likely as it is close to the marsh/river; Dirty water from river/marsh makes them ill/gives them cholera or other example; 3 @ 1 mark	**3**

Question	Answer	Marks
1(b)(ii)	Ideas such as: Unemployment; So high rates of crime/poverty (dev only) Lack of/poor quality housing/squatter settlements/overcrowded houses; High housing/land prices; Lack of land to grow crops; Disease spreads quickly; Pressure on education/lack of schools; Pressure on health care/lack of hospitals etc.; Shortage of water; Have to drink polluted water; Cholera or other example; Shortage of food; Lack of electricity/fuelwood; Difficulties of providing good sanitation; Traffic congestion; Air pollution; Causes breathing difficulties/asthma (dev); etc. Note: Can refer to rural and/or urban areas. 5 @ 1 mark or development	**5**

Question	Answer	Marks
1(c)	Levels marking Level 1 (1–3 marks) Statements including limited detail which describe the problems faced by a country with a large dependent population. e.g. lack of workforce Level 2 (4–6 marks) Uses named example. More developed statements which describe the problems faced by a country with a large dependent population, not the reasons for them or the solutions. e.g. lack of workforce so lower GNP/productivity = L2 lack of workforce because the old are not working= L1, as the last part is reasoning. (Note: Max 5 if no named or inappropriate example) Level 3 (7 marks) Uses named example. Comprehensive and accurate statements including some place specific reference. Content Guide: Answers are likely to refer to old dependents but could also refer to young dependents. If old dependents are chosen answers are likely to include reference to: • High dependency ratio • Difficulties of providing pensions • Cost of services such as healthcare • Pressure on working population • Lack of workforce/innovation • Problems caused by need for inward migration • Difficulty of defending country etc. Young dependent answers could refer to; • High dependency ratio • Cost of services such as healthcare • Pressure on educational facilities • Pressure on working population Place specific reference is likely to consist of: Named parts of the chosen country, Population data etc. Note: Can refer to young and/or old and don't need to specify which. Note: General problems of overpopulation as credited in **Q.1(b)(ii)** – do not credit e.g. lack of food, water etc.	**7**

Question	Answer	Marks
2(a)(i)	Linear/in a line; 1 mark	**1**
2(a)(ii)	Ideas such as: Buildings are separated from/far away from each other/scattered; Buildings are surrounded by farmland/woodland/rural land/has own farm; Low population/building density; 2 @ 1 mark	**2**
2(a)(iii)	Ideas such as: Junction of roads/route centre; Railway line passes through it; Away from risk of floods; Flat land; Close to city/can easily travel to work (in city); 3 @ 1 mark	**3**
2(a)(iv)	Ideas such as: Loss of farmland; Loss of amenity value/e.g. woodlands for walking dogs; Visual impact; Traffic congestion/increase in traffic; Atmospheric pollution causes breathing difficulties; Noise; More jobs/shops/services in out of town developments/draws business outwards or e.g.; Pressure on water supply; etc. 4 @ 1 mark	**4**
2(b)(i)	Fig. 2.2 = Tourism/resort/holidays Fig. 2.3 = Industry/industrial town/manufacturing Fig. 2.4 = Port/harbour 3 @ 1 mark	**3**
2(b)(ii)	Ideas such as: There are lots of people living there; There is a high demand/more people want to shop/eat; They are profitable/make a large profit; High order services need large threshold populations; Large sphere of influence; People travel from a long distance; Good transport links/easily accessible to many people; Will be used by tourists/workers; Sell comparison goods/people can compare different shops/items/prices etc. 5 @ 1 mark or development	**5**

Question	Answer	Marks
2(c)	Levels marking Note: Candidates should focus on one land use change, so mark highest scoring idea only if more than one is stated. Level 1 (1–3 marks) Statements including limited detail which describe a new land use and/or explain why this has caused problems. e.g. new shopping mall =L1 Busier roads/traffic congestion =L1 Air pollution = L1 Level 2 (4–6 marks) Uses named example. More developed statements which describe a change (before and after) in land use and/or explain why this has caused problems. E.g. terraced housing replaced by shopping mall E.g. more traffic congestion so local people are late for work E.g. more air pollution so people have breathing difficulties/asthma (**Note:** Max 5 if no named or inappropriate example) Level 3 (7 marks) Uses named example. Comprehensive and accurate which describes a change in land use and explains why this has caused problems with some place specific reference. Note: Must refer to the change and the problems, but one of these can be at L1. Content Guide: Answers are likely to focus on a change in land use such as: New housing development Building of a new industry Road building Building of a new shop/supermarket Closing industry Urban fringe development Shanty towns etc. Credit description and explanation as L1/L2 statements as appropriate. Accept any changes in land use and any appropriate problems as a result of the stated change in land use.	**7**

Question	Answer	Marks
3(a)(i)	600 mm 1 mark	**1**
3(a)(ii)	Temperature range of 14C = D Average temperature of 23 °C = C 2 @ 1 mark	**2**
3(a)(iii)	Climate Graph A (1 mark reserve) Note: Do not credit reasons if wrong graph is selected. Reasons such as: Low rainfall/less than 250 mm annually/per year/110–120 mm annually; High (summer/average) temperatures; Seasonal variation in temperature/hot in summer and cool in winter etc. Do not credit statistics for each month. 3 @ 1 mark	**3**
3(a)(iv)	Overhead/high angle of sun/direct/concentrated/intense sunlight; High pressure; Descending air/air does not rise; In rain shadow/leeward side of mountains; Cold ocean currents; Wind blows over large areas of land/long distance from sea/dry winds/offshore winds etc. 4 @ 1 mark	**4**
3(b)(i)	Ideas such as: Forest has been illegally logged/their territory is being invaded/forests/habitat destroyed by loggers/ranchers; Diseases to which they are not resistant/or influenza; Lack of food/hunger/starvation; They may be killed by/conflict with loggers/plantation owners etc. 3 @ 1 mark	**3**

Question	Answer	Marks
3(b)(ii)	Ideas such as: Loss of vegetation/protection of vegetation/stop land becoming bare/trees cut down; Loss of habitat/habitat is retained; Food chain disrupted/to avoid disruption to food chain; Threat of extinction/death of species/biodiversity lost/no threat of extinction; Soil erosion/leaching/soil fertility lost/no threat of soil erosion; Flooding/flooding prevented; River pollution/eutrophication/river pollution prevented; Less infiltration/more overland flow/maintains infiltration/less overland flow More siltation/siltation is less likely; Air pollution/smoke from burning/no threat of air pollution; Etc. =0 Global warming Rainfall patterns Oxygen levels Destroy ecosystem^ Note: Accept the problem and/or why they want to avoid the problem E.g. habitat lost/want to protect the habitat 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 explain why deforestation of tropical rainforests threatens the **global natural** environment. Level 2 (4–6 marks) Uses named example Developed or linked statements which explain why deforestation of tropical rainforests threatens the **global natural** environment. (Note: Max 5 if no named or inappropriate example.) Level 3 (7 marks) Comprehensive and accurate statements including one reference to a place impacted. Content Guide: Causes and/or impacts. Impacts must be **global natural** environment Answers are likely to include the following ideas: Less carbon dioxide used by trees Build up of Carbon dioxide/created by burning Forms layer/blanket Increase in temperatures/greenhouse effect/global warming Melting ice/glaciers Loss of species which live in impacted area e.g. polar bears Rising sea level Flooding of coastal lowlands, Loss of mangroves Changes to climatic patterns, e.g. drought etc. Place reference is likely to consist of: Names of places threatened E.g. Antarctica, Maldives, Alps, Andes	**7**

Question	Answer	Marks
4(a)(i)	The distance underground(how deep) the earthquake occurs/starts/rocks break/source of seismic waves How deep the focus is^ Depth where the seismic waves start^ How deep the earthquake is^ Note: Students need to reword both depth and focus, but 'deep' is fine as an alternative to depth. 1 mark	**1**
4(a)(ii)	Depth of focus becomes deeper/increases (further to the east/further from plate boundary/closer to B/from A-B/from ocean to land/from left to right); E.g. less than 50 km in the west and 100 km further east – or other statistics which illustrate change in depth. 2 @ 1 mark	**2**
4(a)(iii)	Ideas such as: Plates converge; Nazca/oceanic Plate/crust is subducted or description of; Because it is denser/heavier; The plate sinks more/it gets deeper/subduction zone gets deeper towards the east/as it moves to the east/from A–B; 3 @ 1 mark	**3**
4(a)(iv)	Pressure on living space; Cannot afford to move; Friends/family live there; Lived there all their lives/born there/sentimental attachment; Work is there; Education is there; Confidence in precautions; Prepared to take the risk/earthquakes don't happen very often/don't know when or if an earthquake will occur; etc. Benefits of living near volcanoes; Cheap land/housing; Study earthquakes; 3 @ 1 mark	**4**

Question	Answer	Marks
4(b)(i)	Ideas such as: Bookshelf/wardrobe/closet/table/cupboard/furniture bolted to wall/doors closed; Light attached directly to ceiling/not hanging/will not swing; Bed not close to/under window/bookshelf; Table/chair not on wheels etc. Wardrobe/light/wardrobe/bookshelf less likely to fall^ Bed not near anything that falls^ Table and chair won't move^ Not reference to A alone, should look at changes in B. 3 @ 1 mark	**3**
4(b)(ii)	Ideas such as: Volcanoes give warnings/earthquakes cannot be so easily predicted; People have time to evacuate/escape before volcano erupts/lava moves slowly/earthquakes happen quickly; Earthquakes can affect a large area/volcano only affects those areas close to it; Relatively few people live close enough to volcanoes to be affected by them/earthquakes can affect very densely populated areas; Earthquakes are much more common than volcanic eruptions etc. Note: Answers do not need to be comparative, other than last line in mark scheme. 5 @ 1 mark or development	**5**

Question	Answer	Marks
4(c)	Levels marking Level 1 (1–3 marks) Statements including limited detail which explain the causes of a volcanic eruption. Level 2 (4–6 marks) Uses named example Developed or linked statements which explain the causes of a volcanic eruption. (Note: Max 5 if no named or inappropriate example. Credit country names to max.5. Allow names of small islands where the volcano name is not usually used e.g. Montserrat) Level 3 (7 marks) Comprehensive and accurate statements including some place specific reference. Content Guide: Answers can refer to constructive or destructive margin: Location on plate boundary Convection currents Plate movement (apart or together) Subduction Destruction of plate Build up of magma Pressure Creation of gap Release of magma etc. Place specific reference is likely to consist of: Locational details/named areas within/around the volcano, Specific details of eruption/date/time/magnitude Statistical information deaths Do not accept plate names as place specific, as allowed within L2 statements. Note: Constructive/destructive margin = 2 × L1 Subduction = L1 Destructive margin where plates move towards each other = L2 or Constructive margin where plates slide apart from each other = L2 The boundary of plates X and Y (plate names must correctly match example) = L2 Subduction of plate X under plate Y = L2 (plate names must correctly match example) Note: Only credit plate names once as development for L2	**7**

Question	Answer	Marks
5(a)(i)	Z 1 mark	**1**
5(a)(ii)	Ideas such as: On/around the Equator/low latitude; Up to around 10N/S; Western side; West coast. 2 @ 1 mark	**2**
5(a)(iii)	Ideas such as; Low rainfall/arid/desert; Seasonal rainfall/long period of drought; No rivers/rivers have dried up/lower water table/aquifer low; No/cannot afford water pipelines/water supply system/supply infrastructure; Little investment/lack of technology for reservoirs or other examples of storage/access/treatment e.g. wells. 3 @ 1 mark	**3**
5(a)(iv)	Ideas such as: Water is a basic need/needed for drinking/washing; Needed for cooking food; Reduces (water borne) disease/death rate/people live longer; Reduces likelihood of cholera/typhoid; Reduces pressure on healthcare; People need water to be fit to work/be productive; Water is needed for good sanitation/hygiene/toilets; Reduces need to walk a long way for water; 4 @ 1 mark	**4**
5(b)(i)	Ideas such as: On/close to/near border of Thailand and Laos/near to Thailand border; Next to/near Mekong River; Inside a meander of the Mekong River; South of Vientiane; 6–12 km from Vientiane/capital city; In the west of Laos; 3 @ 1 mark	**3**

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Question	Answer	Marks
5(b)(ii)	Ideas such as: Pumping stations will pump water out of the river; Can be irrigated/there are irrigation canals; Fields can be flooded when needed; Crops grow well/yields/crop production will increase; Excess water can be drained back to river/taken away by drainage channels; Soils/farmland will not be waterlogged/flooded; And farmland more accessible for farmers/machinery; Fertility of the soil will be maintained; Increases farming area. etc. 5 @ 1 mark or development	**5**
5(c)	Levels marking Level 1 (1–3 marks) Statements including limited detail which explain how clean drinking water is supplied. Level 2 (4–6 marks) More developed statements which explain how clean drinking water is supplied. Level 3 (7 marks) Comprehensive and accurate statements which explain how clean drinking water is supplied including some place reference. Content Guide: Answers are likely to refer to: Reservoirs/dams Use of aquifer Rainfall harvesting Road tankers Water tanks Wells Bottled water Pipelines/pumps Water treatment plants Water transfer schemes Desalination Import water etc. Place specific reference is likely to consist of: Names of places and details of schemes to be credited as place specific and not L2 e.g. length or number of dams.	**7**

Question	Answer	Marks
6(a)(i)	22 000 1 mark	**1**
6(a)(ii)	160–180 (km) West/from East to West 2 @ 1 mark	**2**
6(a)(iii)	Ideas such as: Airports; Tourist road/main roads; Tourist camps/camp for tourist or named e.g.; There are safaris/a safari camp/Safari village are available etc. 3 @ 1 mark	**3**
6(a)(iv)	Ideas such as: To create jobs or example/so people earn money; Money spent in local businesses/more demand for local goods/products or e.g.; Attract foreign exchange/make money/increase GDP; Taxes/money can be used for development/develop economy; Multiplier effect; Attract foreign investment/TNCs or example; Improve international relations; Cultural exchange; Improve health care/education; Roads/transport improved/built; Airports are improved/built; Infrastructure/electricity supply/water supply/sewage disposal improved; It has scenic beauty/physical attributes/wildlife or example; etc. 4 @ 1 marks	**4**
6(b)(i)	6.2: Mountains/hills; lake; 6.3: Wildlife/safari/wild animals/giraffes/animals in natural habitat; Savanna; 3 @ 1 mark	**3**

Question	Answer	Marks
6(b)(ii)	Ideas such as: Prevent development/building; Protect wildlife; Banning/limiting hunting/permits for hunting/fishing; Numbers of visitors can be restricted/control the flow of tourists; Access to sensitive areas can be prevented/areas can be fenced; Rangers can be employed to monitor/guide visitors/only enter with guide/security guards ; Create paths/prevent people from leaving paths; Vehicles can be restricted from certain areas/vehicles prohibited; Deforestation/loss of vegetation can be controlled/replanted; Use of litter bins/litter collection/rules against dropping litter/fines for litter; Visitor Centres/Education about environment provided by centres/posters/notice boards <u>about</u> feeding animals/dropping litter or other e.g.; Charge entry fee; Money raised for entry can be spent on conservation/improvement of park etc. 5 @ 1 mark or development	**5**

Question	Answer	Marks
6(c)	Levels marking Level 1 (1–3 marks) Statements including limited detail which explain how the tourist industry has caused problems for local people. E.g. (deforestation) and so less firewood=L1, as just crediting the problem caused. Level 2 (4–6 marks) Uses named example. More developed statements which explain how the tourist industry has caused problems for local people. E.g. Lack of firewood and so travel longer distances = L2. (**Note:** Max 5 if no named or inappropriate example, which must be an area or a small country/island e.g. Menorca/Andorra/Jamaica) Level 3 (7 marks) Uses named example. Comprehensive and accurate statements including some place specific reference. Content Guide: Answers are likely to refer to: Noise Litter Seasonality Exploitation Inflation Loss of farmland/living space Traffic congestion Shortage of water Air pollution causes Breathing difficulties Damage to fishing grounds/water pollution reduces catches for fishermen Culture conflict Damage to habitats so people have less food etc. **Note:** Problems must be for people and not the natural environment. E.g. air pollution (air pollution) causes breathing difficulties L1 Water pollution (Water pollution) contaminates drinking water L1 Contaminate drinking water and they suffer typhoid L2 Place specific reference is likely to consist of: Locational details; Names of places within chosen area Specific details/statistics	**7**