Cambridge Assessment International Education

Cambridge IGCSE™

GEOGRAPHY **0460/13**

Paper 1 Geographical Themes **May/June 2023**

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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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)	Birth rate – death rate +/−migration. All 3 words needed in correct places. 1 mark	**1**
1(a)(ii)	Angola, India, USA, Ukraine. (Correct order needed.) 2 marks if all are correct. 1 mark if 2 or 3 are correct. 2 @ 1 mark	**2**
1(a)(iii)	Ideas such as: Uneven; Clustered/close together/bordering each other; In (central) Africa; Between tropics/tropical countries; Anomaly/a/one country <u>in (South/Southwest) Asia/Middle East</u>; Etc. 3 @ 1 mark	**3**
1(a)(iv)	Ideas such as: Lack of/cost of housing/squatter settlements/homeless; Unemployment/no work/low pay/exploitation; Pressure on/lack of/cannot afford health care/hospitals/social services etc.; Pressure on/lack of/cannot afford education/schools; Lack of water/polluted water; Power cuts/outages/lack of electricity; Traffic congestion/lots of traffic; Air pollution/breathing problems; Lack of/cannot afford/pressure on food/famine; Poor sanitation/hygiene/lack of toilets; <u>Increased</u> crime or example; People live close together spreading disease/so hard to control disease; Lack of farmland; <u>Disposal</u> of waste products/household waste/solid waste; Etc. 4 @ 1 mark	**4**

Question	Answer	Marks
1(b)(i)	Ideas such as: People learn about/education about more likely to use contraception/family planning/abortion/prevent pregnancy; People earn money so can afford contraceptives; People are more aware about the problems caused by rapid population growth; Less likely to be influenced by culture/religion/traditional attitudes/less polygamy; More women work; Later marriage/have children later/girls attend school for longer; Better knowledge about childcare/hygiene/nutrition; Infant mortality reduces; Education is expensive/can't afford to send them to school so people cannot afford many children; Cannot send children (of school age) out to work/they cannot take care of elders; They are earning so don't need to have children to send out to work; Etc. 3 @ 1 mark	**3**
1(b)(ii)	Ideas such as: Increased life expectancy/people live longer/infant mortality reduced; Vaccination; Any valid example e.g., measles/smallpox/typhoid/covid-19 (dev); Regular health checks; Mothers given care during pregnancy/childbirth; Able to diagnose/detect illness/disease (early); Any valid example e.g., heart disease/cancer/diabetes (dev);* People can seek advice when ill; Treatments/cures (for diseases)/tablets/medicines/can have surgery/operations; Any valid example e.g., heart disease/cancer/diabetes (dev);* Use of X-rays/scanners or another specified example; Treatment available/able to survive injury/accident; Education/classes/advice about/awareness of sanitation/hygiene; Education/classes/advice about/awareness of healthy diet/safe sex/STDs; **Note:** * Credit example of a relevant disease/illness, but only do this once per answer. Examples need to follow a valid point as development. 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 positive impacts of migration on the destination and/or origin countries of migrants. Level 2 (4−6 marks) Uses named example. Developed or linked statements which describe the positive impacts of migration on the destination and/or origin countries of migrants. (**Note:** Max 5 if no named or inappropriate example.) Level 3 (7 marks) Uses named example. Comprehensive and accurate statements which describe the positive impacts of migration on the destination and origin countries of migrants, including some place specific reference. Content Guide: Answers are likely to refer to ideas such as: *Destination country:* Provision of workforce; Low-cost of workers; Skilled workers (e.g., doctors); Cultural mix; Service provision (e.g., restaurants, food stores); *Origin country:* Remittances; Reduces pressure on employment/food supply etc. May return with skills; Place specific reference is likely to consist of: Named parts of the chosen countries, Population data etc. **Note:** Answers should focus on the impact to the country and not the migrants.	**7**

Question	Answer	Marks
2(a)(i)	Harare Gardens/Unity Square. 1 mark	**1**
2(a)(ii)	Street which is pedestrianised = First (Street). Form of public transport = train/bus/railway (station). 2 @ 1 mark	**2**
2(a)(iii)	Ideas such as: High density/close together/streets are (approx.) 100 metres apart; Uniform/planned; Closer together/more dense/(approx.) 50 metres apart <u>in South-west</u>; Grid iron pattern; Long/straight/linear/parallel; Right angles to each other/square/rectangular layout; At an angle/diagonal/slanted to each other <u>in South-west</u>; North to South/East to West; South-west to North-east in <u>South-west</u>; Etc. 3 @ 1 mark	**3**
2(a)(iv)	Ideas such as: Edge of/in the CBD; Northern part (of CBD); Accurate distance/direction from named feature (other than street) e.g., North/NE of Harare Gardens/(approx. 400 metres from Geology Museum; On/near/at/next to/compass direction from Mazowe/Baines/Second /Josiah Chinamaino Street/at junction of Baines/Mazowe/Baines/Second/Josiah Chinamaino Street; Easy/quick access <u>for transporting patients/visitors/ambulances;</u> Emergency vehicles less likely to be held up by traffic in centre of CBD; People can access it using public transport; Car park nearby/can park nearby; Etc. **Note:** 3 marks MAX for description/suggest reasons, so one mark reserve for description/suggest reasons. 3 + 1 marks	**4**

Question	Answer	Marks
2(b)(i)	Ideas such as: Fig. 2.2 is busier/more people/pedestrians; Fig. 2.2 is pedestrianised, but Fig 2.3 has traffic/is not; Fig. 2.2 has taller buildings; Fig. 2.2 has greenery/more trees, but Fig. 2.3 does not; Fig. 2.2 has more street furniture/or example; Fig. 2.2 has larger buildings; Fig. 2.2 buildings are more modern etc. **Note:** Comparison required. Accept reference to Fig. 2.2/2.3 as long as answer is comparative, using words such as more/less. 3 @ 1 mark	**3**
2(b)(ii)	Ideas such as: They are high/middle order; Specialist/luxury/expensive/comparison goods; More variety of shops/services/goods or they use more than one shop/service or example (when visiting); Many people will not have similar shops/services near their homes; People travel long distances to use them; They are easily accessible/CBD has good transport links or example of; They will not use them frequently; Etc. 5 @ 1 mark or development	**5**

Question	Answer	Marks
2(c)	Levels marking Level 1 (1−3 marks) Statements including limited detail which explain the causes of traffic congestion in an urban area. Level 2 (4−6 marks) Uses named example. Developed or linked statements which explain the causes of traffic congestion in an urban area. (**Note:** Max 5 if no named or inappropriate example.) Level 3 (7 marks) Uses named example. Comprehensive and accurate statements which explain the causes of traffic congestion in an urban area, with some place specific reference. Content Guide: Answers are likely to refer to: High population density/many people live there; High car ownership; Many people travel to work/school/shops by car; Narrow roads; High density of roads; Roads developed before so many vehicles were being used; On street parking; Delivery vehicles/heavy lorries etc. Lack of bypass/ring road; Lack of public transport; Lack of traffic control methods/police/congestion charge; Tourism/manufacturing industry or other land use which generates traffic; Rush hour; Accidents; Road works; Specified special events e.g., football match/concert; Specified location e.g., around airports; Travel to CBD; Place specific reference is likely to consist of: Locational details, Specific details of the urban area chosen etc.	**7**

Question	Answer	Marks
3(a)(i)	6.1 or 5.5 – 6.4 (M). 1 mark	**1**
3(a)(ii)	Most deaths = Philippines. Deepest focus = Papua New Guinea. 2 @ 1 mark	**2**
3(a)(iii)	Ideas such as: Uneven/clustered; Linear/in lines; Along/next to/near plate boundaries; Around Pacific Ocean/Pacific Ring of Fire; SE/Eastern Asia/Western North/South America/North of Australasia (many in); Some/a few/others/anomalies/scattered in/widely spaced in mid Atlantic/Mediterranean or other specified location; 3 @ 1 mark	**3**
3(a)(iv)	Ideas such as: Convection currents; Lateral plate movement/plates move sideways/past each other/at different speeds; Friction; Build-up of pressure/energy/tension/plates get stuck; Pressure/tension/energy release; Jolting/plates slip; Etc. 4 @ 1 mark	**4**
3(b)(i)	Ideas such as: Lava; Ash; Gases; Volcanic bombs. 3 @ 1 mark	**3**
3(b)(ii)	Ideas such as: Convection currents; Plates are converging/moving towards each other; Subduction/one goes under the other/Pacific Plate goes under Indo-Australian Plate; One is heavier/more dense; Destruction/melting of rocks/crust; Build-up of/creates magma/lava; Pressure/energy build up; Magma/lava rises/reaches surface/pushed up to surface/moves through cracks/comes out/bursts out etc. 5 @ 1 mark or development	**5**

Question	Answer	Marks
3(c)	Levels marking Level 1 (1−3 marks) Statements including limited detail which explain why people live close to a volcano. Level 2 (4−6 marks) Uses named example. More developed statements which explain why people live close to a volcano. (**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: Money from/work in/tourists visit (or example); Fertile soils/high yields of crops/good for farming; Scenic beauty; To study volcanoes; Geothermal power/renewable energy/hot water; Quarrying/mining/ extraction of minerals (or example−sulphur/diamonds, building materials); Cannot afford to move; Friends/family nearby; Unaware of risk etc. Place specific reference is likely to consist of: Locational details, Specific details of the volcano etc.	**7**

Question	Answer	Marks
4(a)(i)	Sahara. 1 mark	**1**
4(a)(ii)	Ideas such as: Mojave is in N. America and Atacama is in S. America; Atacama is south of Equator/southern hemisphere and Mojave is north of Equator/northern hemisphere/Atacama is further South; Mojave is on Tropic of Cancer Atacama is on Tropic of Capricorn; Atacama is closer to Equator/lower latitude; Atacama stretches further from north to south; Mojave stretches further inland etc. **Note:** Answers must be comparative. 2 @ 1 mark	**2**
4(a)(iii)	Ideas such as: Around/on/near or close to tropics (of Cancer/Capricorn); Between 5−30°N/S;* Western sides of continents/land masses; Africa/Australasia/Asia/N/S.America (at least 3 needed). **Note:** *If using latitude figures must give a range which approximately reflects the pattern on the map e.g., 8−28 degrees. 3 @ 1 mark	**3**
4(a)(iv)	*Cold Ocean Current* Cold current flows offshore/along coast/from higher latitude; Air (above it) is cooled; Cool air cannot hold moisture/condensation takes place; It rains/fog forms <u>before</u> it reaches the land/<u>so</u> the wind becomes dry; *Prevailing winds* Blow from south-east/South-east Trade Winds; Blow overland/blow over large areas; Have no sources of moisture/it is a dry wind; Rain falls before it reaches the Atacama; Rain shadow (of the Andes); Etc. 2 @ 2 marks	**4**

Question	Answer	Marks
4(b)(i)	Ideas such as: Altostratus are lower/middle level /cirrus are higher (or comparative statistics using metres); Altostratus are bigger/broader/longer than cirrus; Altostratus are more solid/dense; Cirrus are wispy/featherlike/at an angle and altostratus are layer like/horizontal/parallel/straight; **Note:** Answers must be comparative. 3 @ 1 mark	**3**
4(b)(ii)	Ideas such as: Overhead sun/<u>direct or overhead</u> sunshine; Water/earth's surface is heated; Evaporation; Transpiration; **Or** allow evapotranspiration for 1 mark. Air/<u>water vapour</u> rises/convection occurs/convection currents; <u>Cooling</u>; Condensation occurs/clouds form/build up/droplets form; Saturation/clouds cannot hold any more water; Etc. 5 @ 1 mark or development	**5**

Question	Answer	Marks
4(c)	Levels marking Level 1 (1−3 marks) Statements including limited detail which describe/and/or explain the characteristics of desert vegetation. Level 2 (4−6 marks) Uses named example. Linked statements which describe and explain the characteristics of desert vegetation. (**Note:** Max 5 if no named or inappropriate example.) Level 3 (7 marks) Uses named example. Linked statements which describe and explain the characteristics of desert vegetation, including some place specific references. Content Guide: Answers are likely to refer to: Long/wide roots…to reach water (in ground/underground water); Wide roots ……to get water from a wider area/from surface; Spines/thorns….to reduce transpiration/evapotranspiration/predators; Wide/fleshy stems….to store water/food/energy; Thick/leathery outer part…..to reduce transpiration/ evapotranspiration; Remain dormant for long period of time….to conserve water when there is no rain; Widespread plants so they do not compete for water; Few/small/sunken stomata …….to reduce transpiration/evapotranspiration; Low….to avoid winds/to reduce transpiration/evapotranspiration; Light colour…..to reflect the sunlight/so it doesn't absorb sunlight; Etc. **Note:** Only allow the same description or explanation once. Place specific reference is likely to consist of: Locational details, Named places, Climate statistics.	**7**

Question	Answer	Marks
5(a)(i)	5.2 = Tertiary. 5.3 = Primary. 5.4 = Secondary. 1 mark	**1**
5(a)(ii)	Graph completion. 1 mark for line at 65% 1 mark for shading **Note:** If division is at 90% and the shading is correct award 1 mark. 2 @ 1 mark	**2**
5(a)(iii)	Decrease in primary; Small/slightly less decrease in secondary/stays almost the same in secondary; Increase in tertiary; 3 @ 1 mark	**3**
5(a)(iv)	Ideas such as: They provide education/children will be able to attend school/get educated/become more educated/the country needs more educated people; Develop more skills/learn to read/write/improve literacy; And work in services/more tertiary workers or named example such as tourist industry, become doctors, IT experts, scientists etc.; Education leads to development/economic growth/increases GNP/GDP/HDI/country will get money/foreign currency; Get jobs/better paid jobs/provide future workforce; People will have/earn money (to spend on food/basic needs); Income from taxes; Education is a right for all children/reduces inequality/gives equal rights to children in all areas; Education will reduce population growth rates/birth rates; May reduce emigration; 4 @ 1 mark	**4**
5(b)(i)	Ideas such as: HDI index is higher/Indonesia 0.718 India 0.645; Energy use per person is higher/Indonesia 850 India 560 kg oil; Access to internet is higher/Indonesia 40 India 35%; % of malnourished children is lower/Indonesia 30 India 35%. **Note:** Answers must be comparative. Assume answer is referring to Indonesia unless otherwise stated. 3 @ 1 mark	**3**

Question	Answer	Marks
5(b)(ii)	Ideas such as: HDI 0 to 1 index is used whilst GNP measures in any named currency; HDI is a composite indicator/made of several measurements whilst GNP looks at just one measurement/HDI looks at more indicators; HDI looks at education and health (in addition to wealth/productivity); HDI includes reference to social development whilst GNP just measures economic development; GNP looks at productivity/wealth/income/value of products and services; HDI looks at life expectancy; HDI looks at income/GNI/gross national income; HDI looks at years of schooling; Etc. 5 @ 1 mark or development	**5**
5(c)	Levels marking Level 1 (1−3 marks) Statements including limited detail which explain why the process of globalisation has occurred. Level 2 (4−6 marks) More developed statements which explain why the process of globalisation has occurred. Level 3 (7 marks) Comprehensive and accurate statements, including references to places and/or examples (at least two places and/or examples). Content Guide: Answers are likely to refer to the role of: Technology; Transnational companies; Air transport developments; Containerisation/sea transport; Internet/social media; Communications e.g., phone network; Variation in wage rates globally; Global demand; Westernisation; (Lack of) legislation – wage rates/environment etc. Trade agreements/free trade; Global banking; Need to trade/imports/exports; **Note:** Places and examples could be names of countries, specific locations or named TNCs need at least two of any of these.	**7**

Question	Answer	Marks
6(a)(i)	Northern Territories. 1 mark	**1**
6(a)(ii)	Natural gas, Coal, (other renewables), Oil, HEP. (Correct order needed.) 2 marks if all are correct. 1 mark if 2 or 3 are correct. 2 @ 1 mark	**2**
6(a)(iii)	Ideas such as: Higher percentage of coal used in Queensland/coal is used in Queensland but not in Tasmania; Higher percentage of oil used in Queensland/low amounts of oil used in both countries; Higher percentage of (natural) gas used in Queensland; Higher percentage of HEP used in Tasmania; Higher percentage of other renewables used in Tasmania; Highest in Queensland is coal <u>whilst</u> highest in Tasmania is HEP. **Note:** Answer must be comparative. 3 @ 1 mark	**3**
6(a)(iv)	Ideas such as: Some states don`t have the physical conditions required for its generation; E.g., not enough precipitation/steep slopes/(fast flowing) rivers for HEP; E.g., not enough sunshine/too cloudy for solar power; E.g., inland location so wave power is not possible/area of coastline with no big waves; E.g., no volcanic activity for geothermal; Varying availability of fossil fuel/non-renewable energy or e.g., such as Tasmania may not have coalfields/oil and gas deposits; Green policies/political differences re green policies/people more concerned about the environment or example, such as global warming in some states; Etc. 4 @ 1 mark	**4**

Question	Answer	Marks
6(b)(i)	Ideas such as: Uneven; Widespread/spread across the country/in all states (or all five state names listed); Inland/in the middle and around coasts/offshore/near/in sea; e.g., West/North-west/South-east coast; In the East/Central/Eastern Australia. 3 @ 1 mark	**3**
6(b)(ii)	Ideas such as: Fossil fuels are non-renewable/will run out; Many deposits have been exhausted; Need to import supplies reduced; Desire to avoid dependence on other countries e.g., in war time; Desire to reduce balance of payment deficit; Expensive/high/fluctuating prices/running/transport costs; Fossil fuels pollute the atmosphere; Desire to reduce carbon dioxide emissions/greenhouse gases; And to reduce global warming/greenhouse effect; Rising sea levels/melting ice caps etc. (one max development for impact of global warming); Reduce acid rain; Respiratory diseases/asthma reduced etc. **Note:** Can answer with fossil fuel disadvantages and/or renewable energy advantages. 5 @ 1 mark or development	**5**

Question	Answer	Marks
6(c)	Levels marking Level 1 (1−3 marks) Statements including limited detail which describe and/or explain the location of a factory or zone of manufacturing industry. Level 2 (4−6 marks) Uses named example. Linked statements which describe and explain the location of a factory or zone of manufacturing industry. (**Note:** Max 5 if no named or inappropriate example.) Level 3 (7 marks) Linked statements which describe and explain the location of a factory or zone of manufacturing industry, including place specific information. Content Guide: Answers are likely to refer to: Raw materials; Market; Labour availability – cost/skills; Power supplies; Availability of (flat) land; Government incentives; Proximity to ports etc. Place specific reference is likely to consist of: Named locational details, Named location of areas supplying industry, Specific details of transport routes etc. **Note:** Name of country is not acceptable for location here.	**7**