GradeMax

Cambridge Assessment International Education
Cambridge International General Certificate of Secondary Education

GEOGRAPHY **0460/12**

Paper 1 **May/June 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.

Cambridge International is publishing the mark schemes for the May/June 2019 series for most Cambridge IGCSE™, Cambridge International A and AS Level and Cambridge Pre-U components, and some Cambridge O Level components.

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

© UCLES 2019

GradeMax

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.

© UCLES 2019

GradeMax

Question	Answer	Marks
1(a)(i)	500 000	**1**
1(a)(ii)	Natural population growth: Difference between the number of birth and deaths / BR-DR / BR higher than DR / more births than deaths; Net migration: Difference between immigration and emigration / more moving in than out / immigration-emigration; 2 @ 1 mark	**2**
1(a)(iii)	Net migration bigger than natural population growth= 1999–2011 inclusive / 2014; More emigrants than immigrants= 1992; Largest increase in population= 2011; 3 @ 1 mark	**3**
1(a)(iv)	Ideas such as: Low BR / fertility rates; Use of / availability of contraception / family planning is widespread / can afford contraception; Availability of abortions; Educated about family planning / problems of large population growth; Women are educated / many women have careers / emancipation; Expense of large families / people want to buy luxury goods; Benefits are available for elderly / no need for many children to look after the elderly / old people have pensions / care homes; Education is compulsory; Low IMR rates; Get married later / have children later; Children not needed as workers / on farms; Secular society / religious beliefs do not prevent use of contraception; Etc. 4 @ 1 mark	**4**
1(b)(i)	Ideas which **compare growth** such as: More growth in Africa overall; Population was higher in Europe in 1800 but higher in Africa in 2100; Growth was more rapid in Europe up to 1950 / or any period before that as long as not a single year; Growth has been much more rapid in Africa since 1950 / or any period after that as long as not a single year; Europe`s population is predicted / estimated to decrease (from 2015) but Africa`s predicted to increase; Statistics **with units** to MAX. 1 **RESERVE** – needs to be comparative and include 2 dates for each of Europe and Africa. Do not need to be supporting statements made. 3 @ 1 mark	**3**

© UCLES 2019

GradeMax

Question	Answer	Marks
1(b)(ii)	Ideas such as : Lack of housing / overcrowded houses / shanty towns; Pressure on health care; Pressure on educational facilities; Lack of employment; Lack of food / farmland / starvation / need to import more food; Pressure on water supplies / lack of water; Pressure on sanitation / lots of waste / waste disposal problems; Traffic congestion / jams; Overuse of agricultural land / desertification / have to farm marginal land; Deforestation; Air / water pollution; Poverty; Pressure on electricity / power / fuel shortages; Etc. Note: Can develop each line of MS once 5 @ 1 mark or development	**5**

© UCLES 2019

GradeMax

Question	Answer	Marks
1(c)	Levels marking <u>Level 1</u> (1–3 marks) Statements including limited detail which describe and/or comment on the success of a population policy. e.g. One Child Policy <u>Level 2</u> (4–6 marks) More developed statements which describe and/or comment on the success of a population policy. Can use 3 × L2 for description **or** evaluation. (Note: Max. 5 if no named or inappropriate example) <u>Level 3</u> (7 marks) Uses named example. Comprehensive and accurate statements which <u>describe and comment</u> (both at L2) on the success of a population policy including some place specific reference. Note: **Anti natal** policies e.g. China One Child Policy Ideas will cover the following – so credit only 1 × L2 for each of the ideas below, although other ideas such as applying to have a child / increasing the age of marriage can also be credited. Any country with an anti natal policy follows the marking structure for China. Whereas **pro natal** policies e.g. Singapore / France can develop any ideas to L2, without using the China marking structure. Incentives – e.g. One Child Policy & Free education (L2) Penalties – One Child Policy & use of fines (L2) Exceptions – One Child Policy & not penalized for twins or if first child disabled (L2) Enforcement – One Child Policy & Granny Police (L2) Not: allow second child is the first born is a girl in rural areas – too generalized <u>Content Guide:</u> Policy could be to reduce or increase population growth and could refer to <u>natural growth or migration.</u> Answers are likely to refer to: • Limits on numbers of children • Methods of enforcement • Provision of contraception • Legislation about abortion • Impact on birth rates • Female infanticide	**7**

© UCLES 2019

GradeMax

Question	Answer	Marks
1(c)	• Imbalance of sex ratios • Reduced birth rate • Less pressure on schools • Less pressure on food • Less pressure on medical care • Etc. <u>Place specific reference is likely to consist of:</u> Named parts of the chosen country, Population data, Specific aspects of policy etc. Statistics (can also be credited as PS)	

© UCLES 2019

GradeMax

Question	Answer	Marks
2(a)(i)	A method of arranging settlements based on the size of their population.	**1**
2(a)(ii)	The larger / smaller the population the less / more settlements there will be / inversely proportional; E.g. more villages than cities (must compare two settlement types) 2 @ 1 mark	**2**
2(a)(iii)	Examples such as: Department store; (Specialist shops such as) Jeweller; Wedding dress shop; Umbrella shop: National stadium; Theatre; (International) airport; University; Parliament; Embassy HQ; Etc. Note: Can give 3 different high order shops 3 @ 1 mark	**3**
2(a)(iv)	Ideas such as: There is a large population / lots of customers / large market / large demand; The sphere of influence is a large area / many people travel from a long distance / large catchment area; Enough people to meet threshold; Capital cities are a focus of route networks / good transport links; Many tourists will visit / use the services; Wealthy people live there; Etc. 4 @ 1 mark	**4**
2(b)(i)	Post office(s); Doctors / surgeries; Shops; Schools; Bank; Cashpoint / ATM 3 @ 1 mark	**3**

© UCLES 2019

GradeMax

2(b)(ii)	Ideas such as: People move away from rural areas / move to city / urbanisation; Decline of population in some rural areas; Services are unprofitable / uneconomical / not sustainable Less demand / customers; Increased mobility / car ownership; Many people use services in the urban areas where they work; Poor communications make supplying resources to these services difficult / expensive; Internet / online shopping; Ageing population / young people leave; Etc. 5 @ 1 mark or development	**5**

GradeMax

2(c)	Levels marking Level 1 (1–3 marks) Statements including limited detail which describe / state the function and/or explain why the chosen settlement has that function. Level 2 (4–6 marks) Uses named example. More developed statements which explain why the chosen settlement has that function (**Note:** Max. 5 if no named or inappropriate example) Level 3 (7 marks) Uses named example. Comprehensive and accurate statements with some place specific reference. Content Guide: Answers will depend on the function of the chosen settlement which may include: Port, Capital city, Industrial town, Route centre, Market town, Administrative centre, Tourist resort Service centre / offers services Note: Do not accept examples of services Place specific reference is likely to consist of: Locational details, Specific details of land uses related to the function, Named parts of settlement etc. Statistics (can also be credited as PS)	**7**

© UCLES 2019

GradeMax

3(a)(i)	Confluence	**1**
3(a)(ii)	Ideas such as: White / fast flowing water / rapids; Rocks / boulders / stones (in channel); Shallow / varying depths; Uneven long profile / gradient etc. =0: Steep gradient Valley Large load Wide / narrow / large / small Waterfall Trees Comparing the two rivers 2 @ 1 mark	**2**
3(a)(iii)	Ideas such as: Fast flowing; Has energy; Materials carried by river; Corrasion / hydraulic action / abrasion / attrition or description of process e.g. rocks collide with each other 3 @ 1 mark	**3**
3(a)(iv)	Ideas such as further downstream it is likely to be: Wider river; Broader valley Deeper; Faster / velocity increase; Greater volume / discharge; (Total) load gets larger Size of load / sediment smaller; More deposition / deposition instead of erosion More lateral erosion; Higher hydraulic radius / wetted perimeter / smoother riverbed; More meandering / oxbow lake present; A flood plain may develop; Valley (sides) will be less steep / flatter; Gradient of river gets less; Etc. 4 @ 1 mark	**4**

© UCLES 2019

GradeMax

3(b)(i)	Features such as: White water / spray / turbulent / foam; Vertical / steep (drop / sides) / cliff; Plunge pool / deep pool; Overhang / cave / undercut; Double waterfall / steps / ledge / separates at top; Widens as gets lower; 3 @ 1 mark	**3**
3(b)(ii)	Ideas such as: Hard rock overlies softer rock / (passes over) hard then soft / alternating hard and soft; Hard rock resists erosion / softer rock is eroded rapidly; Undercutting / overhang develops; Overhang collapses; Retreat of waterfall / process repeats; Specific named methods of erosion or description of (1 MAX) No reserve on diagram, but must be labelled to credit relevant ideas. Do not double credit ideas on diagram. 5 @ 1 mark or development	**5**

GradeMax

3(c)	Levels marking Level 1 (1–3 marks) Statements including limited detail which explain the causes of a flood. Level 2 (4–6 marks) Uses named example. More developed statements which explain the causes of a flood. (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: Heavy rainfall, Rainfall over a long period of time, Impermeable rocks, Rocks reach saturation level, Snow / ice melt, Deforestation, Urban development Storm surges High spring tides Cyclones – so coastal flooding idea fine at estuary Lack of river management Place specific reference is likely to consist of: Locational details, Named places along the river / in the drainage basin, Statistics (can also be credited as PS) e.g. rainfall amounts	**7**

GradeMax

4(a)(i)	Volcanoes are in a roughly circular pattern / around / surrounding the Pacific;	**1**
4(a)(ii)	Ideas such as: Both are in the Pacific Ocean / on Pacific plate; Ruapehu is in the Ring of Fire but Mauna Loa is not / Ruapehu is on the edge and Mauna Loa is in the centre / hot spot; Ruapehu is further south / Ruapehu is in S.Hemisphere and Mauna Loa in N. Hemisphere; Ruapehu is further west / Mauna Loa is further East; Mauna Loa is nearer equator; Ruapehu is East of Australia but Mauna Loa is West Of USA; 2 @ 1 mark	**2**
4(a)(iii)	Ideas such as: Subduction / one plate sinks under the other; Oceanic plate is heavier / denser; Destruction of / melting of crust; Build up of pressure; Magma released through weakness / crack etc Note: Divergent plates idea =0 marks for question. 3 @ 1 mark	**3**
4(b)(i)	Ideas such as: (General) Increase in number of earthquakes over the time period / most earthquakes in 2015; Especially since 2013 / 2014; Little change between 2010–2012 / 13; More variation / fluctuations in 2015; 3 @ 1 mark	**3**
4(b)(ii)	Ideas such as: Evacuation procedures; Buildings which are earthquake / volcano proof – accept details to MAX 2; National earthquake day; Education about what to do during earthquake / volcano / safety drills; Train emergency services; Survival kit / emergency food supply Landuse zoning / exclusion zone; Lava diversion channels; Spray lava with water; Shelters from volcanoes; Wearing masks to protect from dust; Flexible gas pipes / cut offs; Etc. 4 @ 1 mark	**4**

© UCLES 2019

GradeMax

4(b)(iii)	Ideas such as MEDCs / LEDCs: Invest more / less money in methods of protection / monitoring; Instigate evacuation procedures more / less effectively; Educate people so that they can protect themselves from the impacts; Provide better healthcare / hospitals / doctors / ambulances; Provide quicker / more efficient rescue services / helicopters Build stronger / weaker buildings; Have better / poor road network; Etc. Do not need LEDC / MEDC stated or comparative answer 5 @ 1 mark or development	**5**

GradeMax

4(c)	Levels marking Level 1 (1–3 marks) Statements including limited detail which explain why people live close to an active volcano. Job = L1 e.g. of job = L2 Level 2 (4–6 marks) Uses named example. More developed statements which explain why people live close to an active volcano. (Note: Max. 5 if no named or inappropriate example) Level 3 (7 marks) Comprehensive and accurate statements which explain why people live close to an active volcano, including some specific details. Content Guide: Answers are likely to refer to: Fertile soils, Mining / quarrying Tourism, Prepared to take the risks / risks are outweighed by benefits, Geothermal power Friends / family Scientists Can't afford to move Note: Develop each idea for 1 × L2 max. These ideas simply stated = L1, can develop each idea once for L2. Jobs or earn money – use as development once ie 1 × L2. Place specific reference is likely to consist of: Locational details, Named areas / features etc. Statistics	**7**

© UCLES 2019

GradeMax

5(a)(i)	Producing output / produce / product / crops / food to use / feed family / self / tribe	**1**
5(a)(ii)	Gives water / provides water / won't dry out / have water constantly / they do not go for long spells without water; Plants grow (faster / bigger) / keeps them alive / don't die / more crops; Note: No reference to water =0. Must have first idea to gain credit for second mark, as idea of irrigation needs to be understood. 2 @ 1 mark	**2**
5(a)(iii)	Ideas such as: Using low / intermediate technology / lack technology / machinery ; Have the skills to be able to use these methods / don't have skills to use machinery; Relatively low cost / people are poor / affordable method; Do not require sources of fuel (electricity) / they use manpower; Animal power is used / are available; Easy to maintain / build; Made from local materials; Etc. 3 @ 1 mark	**3**
5(a)(iv)	Methods such as: Crop rotation / fallowing; Use of fertilizers / animal manure; Insecticides / pesticides / herbicides; Greenhouses / glasshouses / polytunnels; Mulching; Use HYVs / GM / disease resistant / or example; Mechanization / automation; 4 @ 1 mark	**4**

© UCLES 2019

GradeMax

5(b)(i)	Ideas such as: Feeding; Planting; Sowing Harvesting; Shearing; Spreading fertiliser; Slaughtering animals; Irrigating; Ploughing; Weeding; Lambing; Herding; Spraying; Milking; Etc. Note: Jobs that the farmer does. 3 @ 1 mark	**3**
5(b)(ii)	If crops fail the farmers will be able to depend on animals / crops; Animal manure can be used for crops; Crops / crop waste can be used for animal feed; Animals used to plough fields; Farmers can use all types of land / e.g. fertile soils for crops and infertile soils for grazing; Work will be spread throughout the year; Income will come into the farm at various different times; Can adapt to changes in demand; Enables crop rotation; Etc. If the candidate refers to crops <u>or</u> animals only, do no credit. 5 @ 1 mark or development	**5**

© UCLES 2019

GradeMax

5(c)	Levels marking Level 1 (1–3 marks) Statements including limited detail which explain why there have been food shortages. Level 2 (4–6 marks) Uses named example. More developed statements which explain why there have been food shortages. (**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: Issues such as: Drought, War, Poverty, Overuse of the land, Population increase, Export of cash crops, Lack of cultivable land, Unequal distribution of land, Flooding, Poor storage of food, Poor distribution of food / aid Desertification Note: Do not credit the causes of drought or war as L2 statements – they need to explain how these factors cause food shortages Place specific reference is likely to consist of: Locational details / named areas within country chosen Specific details of issues / dates Statistics (can also be credited as PS)	**7**

GradeMax

6(a)(i)	One	**1**
6(a)(ii)	**Renewable:** Hydro-electric / HEP; Geothermal; Wind. **Non-renewable:** Coal; Oil / thermal; 2 @ 1 mark	**2**
6(a)(iii)	Ideas such as: Both have oil fired / thermal power stations; Both have HEP; Oil is more important / more thermal stations in Sonara / 4 in Sonora and 2 in Sinaloa; HEP is more important / more HEP stations in Sinaloa / 5 in Sinaloa and 1 in Sonora; Sonora has mainly oil but Sinaloa has mainly HEP; Sonara has a geothermal power station, Sinaloa does not; 3 types of power in Sonora and 2 in Sinaloa; Note: Must be comparative 3 @ 1 mark	**3**
6(a)(iv)	Ideas such as areas which can generate large amounts of HEP: Have lots of rainfall; Mountainous / have steep slopes; Experience periods of melting snow / ice Have many places to build dams / reservoirs; Have large / fast flowing river(s) / waterfalls; Have large areas of land which can be flooded / open space / sparsely populated; Etc. 4 @ 1 mark	**4**

© UCLES 2019

GradeMax

6(b)(i)	Northwest / Chihuahua / Los Ramones (1) **reserved** No name =0 for answer. Correct pipeline but wrong description =1. Chihuahua pipeline: From El Paso to El Encino; North to south / to the South; 500 km long; Inland; Northwest: Tuscon to Mazatlan; NW to SE / to the SE; 1500 km long; Coastal Los Ramones: Agua Dulce to Aguascalientes / Queretaro; NE to SW / SSW / to the SW / SSW; 1000 km; Inland; 2 @ 1 for description 3 @ 1 mark	**3**
6(b)(ii)	Ideas such as: Expensive; Prices fluctuate; Impact on balance of trade; Reliance on a fuel which is non-renewable / will eventually run out / may have to find alternative fuel; Specified impact(s) on natural environment e.g. air pollution, global warming; Supply may be restricted (if there are political disputes); Problems of damage to pipeline / explosions / leaks; Etc. 5 @ 1 mark or development	**5**

GradeMax

6(c)	Levels marking <u>Level 1</u> (1–3 marks) Statements including limited detail which explain how an economic activity is causing the natural environment to be at risk. <u>Level 2</u> (4–6 marks) Uses named example. More developed statements which explain how an economic activity is causing the natural environment to be at risk. (**Note:** Max. 5 if no named or inappropriate example) Manufacturing / agriculture / tourism acceptable as types of economic activity, along with other appropriate examples. Location must generally be smaller than a country, however there may be exceptions e.g. Sahel. <u>Level 3</u> (7 marks) Uses named example. Comprehensive and accurate statements, including some place specific reference. <u>Content Guide:</u> Answers could refer to any economic activity at any scale and are likely to refer to issues such as: Air pollution, Water pollution, Destruction of vegetation, Impacts on ecosystems / food chains, Impacts on climate, Soil erosion Global issues Deforestation / industry / burning fossil fuels cannot be accepted as valid economic activity, therefore max. 5. <u>Place specific reference is likely to consist of:</u> Locational details / named areas within country / area chosen Statistics (can also be credited as PS)	**7**

© UCLES 2019