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Cambridge International Examinations
Cambridge International General Certificate of Secondary Education

GEOGRAPHY **0460/12**

Paper 1 **May/June 2017**

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.

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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.

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 eg (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)	32 million **Note:** Accept circle or tick as well 1 mark	**1**
1(a)(ii)	Young dependents – decrease/gone down Old dependents – increase/gone up Do not accept statistics. 2 @ 1 mark	**2**
1(a)(iii)	Ideas such as; High birth rates/high fertility rate; Lack of education about family planning/sex education/contraception/problems of having a large family/for females; Lack of/cost of/access to/contraception/family planning/unprotected sex/no contraception for religious reasons; Economic reasons for large families/children needed to work/earn money; High infant mortality; Traditional/in their culture/part of their religion to have large families/keep having children until produce a male child/status of having a large family; To look after parents in old age/no pensions; Get married young/start having children at a young age; Lack of availability/cost of abortions; 3 @ 1 mark	**3**
1(a)(iv)	Ideas such as MEDCs are likely to have: Lower percentage/less young dependents; Smaller numbers of babies/under 5s etc. Higher percentage/more economically active; More people at e.g. 45 – 49; Higher percentage/more old dependents; More people at 80+; Higher average age **Note:** Accept percentages or idea of more/less people **Note:** No reference to shape or any credit for reasons Can accept reference to LEDC if stated and comparative 4 @ 1 mark	**4**
1(b)(i)	2000 to 2012 – gentle/small/slow/steady/gradual; 2012 to 2039 – steep/large/quick/rapid/faster/major/high/great amount/rate increased; 2039 to 2048 – gentle/levels off/slows down/low/decrease; 3 @ 1 mark	**3**

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Question	Answer	Marks
1(b)(ii)	Ideas such as: Low or decreasing death rates/long life expectancy/less elderly dying /people live longer; Better/investment in health care/hospitals/clinics etc.; More doctors/nurses; Better/access to medicines/vaccinations/treatment/can cure disease; Good water supply; Sanitation/hygiene; Improved food supplies/nutrition/better diet; Provision of pensions; Care provision for elderly/elderly homes; Education about diet/exercise/hygiene/AIDS; Healthy lifestyle/take more exercise; Safer working environments/ better health and safety; Reduction in birth rates/having less children/having smaller families = MAX 1 with no DEV mark 5 @ 1 mark or development	**5**

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Question	Answer	Marks
1(c)	Levels marking Level 1 (1–3 marks) Statements including limited detail which describe problems caused by an increasing percentage of young or old dependents. Level 2 (4–6 marks) Uses named example. More developed statements which describe problems caused by an increasing percentage of young or old dependents. (**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: Problems of providing pensions/child allowances; Increased pressure on hospitals/health services; Need to invest more in health/welfare services; Increased dependency ratio; Lower earnings through taxation/need to increase taxes; Increased need for old people's homes/nursery services/schools; Difficulty of recruitment for armed forces; Less innovative workforce ; Need for foreign workers; etc. Place specific reference is likely to consist of: Named parts of the chosen country, Population data etc **Note:** If candidate refers to both young and old dependents in their answer then accept better of the two.	**7**

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Question	Answer	Marks
2(a)(i)	Housing/houses/residential/places to live 1 mark	**1**
2(a)(ii)	In X: Cost of land is likely to be high(er); High(er) demand for land /lots of people want to live there; Lack of space; Terraced/high rise/Victorian/semi-detached in Y; **Note:** No need for comparison. Accept reference to reverse ideas for Area Y if this is stated. 2 @ 1 mark	**2**
2(a)(iii)	Ideas such as : Uneven/clustered; Close to river/estuary; Close to railway line; Close to road; Close to edge of city/rural-urban fringe/outskirts; NW/SE/South; Sectors/wedges/goes from CBD to edge of urban area; 3 @ 1 mark	**3**
2(a)(iv)	Ideas such as: Transport of materials/products; Transport of workers; Low transport cost; Import of raw materials/export; Water supply/cooling/for power; Flat land; Grants/enterprise zones; **Note:** Reasons <u>why</u>/for the location 4 @ 1 mark	**4**
2(b)(i)	A = Shopping Mall/shopping centre/shops/Mall/retail park/shopping park; B = Airport C = Golf course 3 @ 1 mark	**3**

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Question	Answer	Marks
2(b)(ii)	Ideas such as: large amount of space available/open space; e.g. For parking/storage (dev.) Low cost land; Easy road access/accessible/less congested/good transport; near both rural and urban customers ; Close to customers/close enough to areas which provide demand for products/services; Airport/shopping centre is away from residential areas to avoid noise/air pollution; **Note:** Do not allow 'nots'– e.g. not in the CBD to avoid congestion 5 @ 1 mark or development	**5**
2(c)	Levels marking <u>Level 1</u> (1–3 marks) Statements including limited detail which describe the problems which are caused by urban sprawl. <u>Level 2</u> (4–6 marks) Uses named example. More developed statements which describe the problems which are caused by urban sprawl. (**Note:** Max 5 if no named or inappropriate example) <u>Level 3</u> (7 marks) Uses named example. Comprehensive and accurate statements, with some place specific reference. **Note:**Development of problem not reason e.g. water pollution makes people ill, not the explanation of the cause of the water pollution. Not urban problems in general e.g. not enough hospitals/schools etc. <u>Content Guide:</u> Favelas – but not problems for the residents there Loss of agricultural land Deforestation Loss of habitats Atmospheric pollution Water pollution Noise pollution Need for more road transport/congestion on routes into centre Loss of recreational areas Visual impact etc. <u>Place specific reference is likely to consist of:</u> Locational details/named areas within/around the urban area, Specific details of impacts etc.	**7**

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Question	Answer	Marks
3(a)(i)	Shield volcano 1 mark	**1**
3(a)(ii)	X = Magma <u>chamber</u> Y = Crater 2 @ 1 mark	**2**
3(a)(iii)	Ideas such as a strato-volcano: Has steep(er) slopes/more steep; Has (alternative layers of) ash and lava/more ash; Has a narrow(er) base; Higher/taller; More viscous/sticky/thick/lava; More destructive/explosive/violent eruptions; Secondary/parasitic cones or vents; **Note:** Assume answer is about strato-volcano, can refer to shield volcano but must make this clear in their answer. No need for comparison 3 @ 1 mark	**3**
3(a)(iv)	Ideas such as: Uneven/clustered/in belts; On/near plate boundaries/where plates meet; On destructive margins/where plates move towards each other; E.g. <u>Pacific</u> Ring of Fire/W.coast of Americas; On constructive margins/where plates move apart; e.g. mid Atlantic Ridge; Hot spots/few in middle of plate; 4 @ 1 mark	**4**
3(b)(i)	Ideas such as: <u>Natural environment</u> Landslides/avalanches <u>Infrastructure</u> Damaged roads/communications/power networks/airports closed <u>Economy</u> Unable to plant crops/damage to tourist sites/people unable to work/reduces trade or tourism **Note:** Answers need to be under the correct headers 3 @ 1 mark	**3**

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Question	Answer	Marks
3(b)(ii)	Ideas such as: Build 'earthquake proof' buildings/strong buildings; With deeper/flexible foundations; Stronger/flexible bridges; Pyramid shape Shatterproof glass; Reinforced walls; Earthquake drills; Educate people about what to do in an earthquake; Food/water kits or storage/first aid kits/emergency bag Leave areas of <u>empty land</u> to use during an evacuation; Do not build high rise buildings; Hazard mapping; Avoid building strategic buildings on plate boundaries e.g. hospitals/power stations; Evacuation <u>routes</u>; Improve medical care; Rescue teams/trained medical staff on standby; International rescue/aid/donations of blankets/food/water/tents Tsunami warning system 5 @ 1 mark or development	**5**
3(c)	Levels marking <u>Level 1</u> (1–3 marks) Statements including limited detail which explain the causes of an earthquake. <u>Level 2</u> (4–6 marks) Uses named example More developed statements which explain the causes of an earthquake e.g. plate names, direction of movement of plates etc. (**Note:** Max 5 if no named or inappropriate example) <u>Level 3</u> (7 marks) Comprehensive and accurate statements including some place specific reference. <u>Content Guide:</u> Answers are likely to refer to: Plate boundaries Plate movement Convection currents Friction Build up of pressure Pressure release etc. **Note:** Must be an area and not a country, unless a small relevant country such as Haiti	**7**

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Question	Answer	Marks
4(a)(i)	Width × depth × speed of flow 1 mark	**1**
4(a)(ii)	15 mm 15.30 2 @ 1 mark	**2**
4(a)(iii)	Ideas such as: Most of the rain does not fall on the channel; Takes time for overland flow to reach river; Water has to travel downstream; Much of the water gets to the river slowly through soil/rocks/ percolation/groundwater/throughflow; 3 @ 1 mark	**3**
4(a)(iv)	Ideas such as: River flows faster/with more force/energy/pressure; More erosion is likely to occur/more materials worn away; Reference to specific named erosional processes or description; More transportation will occur/more load moved/more material carried; Reference to specific named transportation processes or description; Larger materials can be moved; Greater wetted perimeter 4 @ 1 mark	**4**
4(b)(i)	<u>Drainage Basin</u> Area of land drained by a river/catchment area of river. <u>Watershed</u> Area of land/a line which surrounds a drainage basin/area of land / (line which) separates adjacent drainage basins. <u>Tributary</u> A river/stream which joins/flows into/leads into the main/bigger river. 3 @ 1 mark	**3**
4(b)(ii)	Ideas such as: Loss of habitat; Destroys food chains; Species may have to migrate/face extinction/die; Soil erosion (may increase); Silt/soil washed into rivers; Makes soil infertile/increases leaching/removes nutrients from the soil; Eutrophication DEV mark; Air pollution; e.g. acid rain/asthma DEV mark; Reduces drinking water quality; Increased cost of purification/water treatment; Increased flooding risk; Loss of amenity value/less tourists go there; Reduce fuel supplies/less wood for building/ 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 opportunities of living near a river. Level 2 (4–6 marks) Uses named example. More developed statements which describe opportunities of living near a river. (**Note:** Max 5 if no named or inappropriate example) Level 3 (7 marks) Comprehensive and accurate statements including some place specific reference. Content Guide: Answers are likely to refer to: Fertile soil High yields of crops Land is flat so easy to build on Communications on land are easy along flood plain River can sometimes be used for navigation Fishing/food supply Water supply Irrigation Leisure HEP Industry Place specific reference is likely to consist of: Locational details, named places close to the river etc.	**7**

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Question	Answer	Marks
5(a)(i)	Dairy farming/market gardening/plantations/ranching/any named crop or animal. 1 @ 1 mark	**1**
5(a)(ii)	• Relationship is negative/inverse/the higher the percentage GNP from commercial farming the lower the GNP per person (or reverse) • statistics (no need for units) for GNP and percentage from commercial farming for two countries (i.e. 4 stats in total). 2 @ 1 mark	**2**
5(a)(iii)	Ideas such as: <u>Quality of soil</u> for example • poor soil will be used for grazing sheep • good soils used to grow crops; <u>Relief</u> • crops can be grown on flat land • steeper areas may be used for grazing/pasture; <u>Hours of sunshine</u> • crops will grow if there is enough sun for ripening; <u>Temperature</u> • in cold areas it may only be possible to graze sheep; • crops will not grow in cold areas; • some crops need a tropical climate; • warm temperatures for the growth of crops; • mild climate for cattle; <u>Precipitation</u> • large amount of rainfall is needed for rice growing; <u>Aspect</u> • vines will be grown on south facing slopes; **Note:** 'How' not 'why'. 3 @ 1 mark	**3**
5(a)(iv)	Ideas such as: Overgrazing; Overcultivation/monoculture; Removal of/clearance of vegetation/deforestation/slash and burn; Soil is bare/not protected; It can be washed away by rain; It can be blown away by wind; Roots of vegetation no longer hold the soil together; Soil exhaustion/ nutrient content decreased; Tractors/cattle compacting the soil; Ploughing up and down hill; 4 @ 1 mark	**4**

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Question	Answer	Marks
5(b)(i)	Ideas such as: There is a greater percentage/higher in sub-Saharan Africa/more in sub Saharan Africa; Statistics to support above idea (e.g. X% sub-Saharan Africa but X% in southern Asia) **Note:** stats have to be for same year but year does not need to be identified; The percentage is decreasing more rapidly/consistently in sub-Saharan Africa; Statistics to support above idea etc. 3 @ 1 mark	**3**
5(b)(ii)	Ideas such as: Emergency famine relief/food aid; Improve road/distribution network (for international aid); Use land for food crops for local people rather than export of crops/production of non-food crops; Provide irrigation; Government grants/(low interest) loans to farmers/loans to buy seeds/machinery etc./subsidise cost of; better quality seeds/HYVs/GM; fertilisers; herbicides/pesticides; (charities) send in experts to demonstrate/advise/work with farmers; educate farmers about crop rotation/use of fertilisers/contour ploughing; TNC/foreign investment to create jobs to people can buy food; Mechanisation/donation of machines from abroad; Better storage; Reduce corruption; Crop rotation/avoid monoculture; Anti-natalist policy/give free contraception etc. Greenhouses/glasshouses; Hydroponics; aeroponics (**Note:** No reserve on short term/long term) 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 describe the farming system. Level 2 (4–6 marks) Uses named example. More developed statements which describe the farming system. (**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: Inputs – labour/seeds/soils/sunshine/rain etc. Processes – harvesting/sowing/ploughing etc. Outputs – meat/wool etc. **Note:** Farming system needs to be described – imagine a systems diagram and credit what would be on that	**7**

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Question	Answer	Marks
6(a)(i)	Secondary 1 mark	**1**
6(a)(ii)	Ideas such as: Tall/high; Concrete/cement; Cylindrical/circular/tube like/round; Grey/beige/cream/light coloured; Close together/tightly packed; 2 @ 1 mark	**2**
6(a)(iii)	Ideas such as: Government/local authorities want industries to locate in areas of high unemployment/to create employment/enterprise zones; Government incentives/grants available to locate in some areas; Rent free/rate free sites; Tax incentives; Easy/difficult to obtain planning permission from local authorities/protected land/not allowed to build/laws preventing industry near houses; Strict/lenient legislation about pollution in some areas; Strong trade unions discourage industrial development in some areas; Political instability/political conflict/wars discourage (or vice versa); Government investment in infrastructure; 3 @ 1 mark	**3**
6(iv)	Ideas such as: Road/rail transport (1) for transport of raw materials/goods (1); Proximity to ports/sea/coast (1) to import/export (1); Near river (1) for cooling/water to use in processes (1); Proximity to airports (1) for business travel abroad (1); Availability of resources/raw materials (1) to reduce transport costs/as bulky (1); Location of markets (1) to reduce transport costs (1); Labour supply (1) as processes will require workforce (1); Cost of land (1) as large area will be needed (1) ; Availability of electricity (1) to operate machinery (1) etc.; Flat land (1) factories easily constructed (1); Large areas of land (1) for construction/expansion (1); Cost of labour (1) as NICS are low cost (1); Agglomeration (1) for economies of scale (1); Near University (1) for skilled labour (1); In area which are not likely to flood (1) so factories will not be damaged/production halted (1)etc. **Note:** One mark for identification of appropriate factors and a further mark for simple explanation. 2 @ 2 marks	**4**

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Question	Answer	Marks
6(b)(i)	Ideas such as: Drinking water is contaminated; It is difficult to breathe; Crops are killed; Buildings are damaged 3 @ 1 mark	**3**
6(b)(ii)	Ideas such as: Costs too much/solutions are expensive; Costs too much to treat people; Legislation would be too complex; Government are more concerned about development than the people; Government do not want to risk industry moving out of the country; Creates many jobs/causes unemployment; Wealth/money lost/makes money/it would reduce trade; Corruption is likely/government ministers may be receiving bribes from owners of industry; (negative) multiplier effect Etc. 5 @ 1 mark or development	**5**

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Question	Answer	Marks
6(c)	Levels marking **Note: Landscapes – physical and human** <u>Level 1</u> (1–3 marks) Statements including limited detail which describe why the physical and/or human landscapes attract tourists. <u>Level 2</u> (4–6 marks) Uses named example. More developed statements which explain why the physical and/or human landscapes attract tourists. (**Note:** Max 5 if no named or inappropriate example – not country unless is small and relevant.) <u>Level 3</u> (7 marks) Uses named example. Comprehensive and accurate statements which explain why the physical and/or human landscapes attract tourists including some place specific reference. <u>Content Guide:</u> Answers are likely to refer to: Scenic attractions Historical buildings Theme parks Cultural attractions Restaurants/bars/clubs Hotels/resorts Wildlife Vegetation <u>Place specific reference is likely to consist of:</u> Locational details; Names of places/species/attractions (e.g. Disneyworld) Specific details/names of attractions **Note:** 1. Do not credit named attractions at L1 unless the name indicates what the attraction is. E.g. Big Ben = 0 Windsor <u>Castle</u> = L1 2. Level 2 requires explanation which will usually be expressed by candidates writing about what tourists will do. E.g. mountains (description L1) attract people to hike/ski (explanation L2) Sea (L1) to swim/boating/diving (L2) Beach (L1) to sunbathe (L2) Museums (L1) attract people who are interested in history (L2)	**7**

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Question	Answer	Marks
	However do not credit explanation at L2 which simply states the obvious E.g. beaches for relaxation, restaurants to eat/drink, clubs to play in, art galleries to visit, forest to look at, explore the desert etc. These could be elaborated for L2 credit Eg art galleries to look at famous paintings (L2). Restaurants to eat a variety of local seafood.(L2)	

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