GEOGRAPHY	**0460/13**
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.

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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.

Question	Answer	Marks
1(a)(i)	The number of people living in a/per unit of area/given area/square kilometer/how closely people live together	1
1(a)(ii)	Asia Europe 2 @ 1 mark	2
1(a)(iii)	Ideas such as: There are relatively few people living there/uninhabitable/few settlements; Reasons (<u>physical</u>) for e.g. remote/extreme climate etc. 1 MAX; There are large amounts of resources; There is a surplus of resources/resources are unused; 3 @ 1 mark	3
1(a)(iv)	Ideas such as : Lack of housing/overcrowded houses/shanty towns; Pressure on health care; Pressure on educational facilities; Lack of employment/low wages; 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; <u>Traffic</u> congestion/jams; Overuse of agricultural land/desertification/have to farm marginal land; Deforestation; Air/water pollution; Poverty; Pressure on electricity/power/fuel shortages; Government need to introduce anti-natal policy; Etc. 4 @ 1 mark	4
1(b)(i)	Ideas such as: Low/flat land/valley attracted settlement/is easy to build on/ OR high/steep/mountainous areas are sparsely populated/difficult to build on; Low/flat land/valley has easy access/main road OR high/steep/mountainous areas have poor access/few roads ; Low/flat land/valley is easy to farm/fertile soil OR high/steep/mountainous areas are difficult to farm/have thin soils; Low/flat land/valley is close to river/water supply OR high/steep/mountainous areas are away from river/water supply; Snow/low temperatures result in sparse population in higher areas etc. OR higher/moderate temperatures in lower areas attract population; 3 @ 1 mark	3

Question	Answer	Marks
1(b)(ii)	Ideas such as : Access is good/easy to travel/easy to get around; People are not isolated; They can travel to work; Access to shops; Access to hospitals/schools/named service; Industries need transport for raw materials; Trading route/example of traded product; Immigration route/migrate to; etc 5 @ 1 mark or development	**5**
1(c)	Levels marking **Note: Can be migration between continents, countries or a continent and country or regions.** Level 1 (1–3 marks) Statements including limited detail which explain the causes of an international migration. Level 2 (4–6 marks) Uses named example. More developed statements which explain the causes of an international migration. (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: • employment • health care • education • political issues • natural disasters • lack of food • war • water supply • electricity • etc. Place specific reference is likely to consist of: Named parts of the chosen country, Population data etc. Statistics	**7**

Question	Answer	Marks
2(a)(i)	Linear/in a line.	**1**
2(a)(ii)	Ideas such as: Along a road <u>for</u> transport/ to get to work/for deliveries; Access to/near to/there is a river <u>for</u> fishing/transport/water supply/fertile land; etc. Note: Can give same transport explanation for road and river. 2 @ 1 mark	**2**
2(a)(iii)	Ideas such as: There is a river; Flooding may occur/the area could be a flood plain; The area could be marshy land It could be farmland; It could be forested; Etc. 3 @ 1 mark	**3**
2(a)(iv)	Settlement pattern is dispersed/scattered **(1 mark reserved)** The area could be farmland; Woodland/forest; People need large areas of land to make a living; Some parts of the area may not be habitable Etc. 4 @ 1 mark	**4**
2(b)(i)	Ideas such as: More people living in towns/cities/urban areas/cities are growing/rural-urban migration; Example of pull factor e.g. jobs; No place to build in cities; People all want their own homes/single family homes; People want large homes/garages; Settlements are joining together/swallowing villages; Etc. 3 @ 1 mark	**3**

Question	Answer	Marks
2(b)(ii)	Ideas such as: Loss of farmland; Increase in house prices; Some rural residents can no longer afford to live in the area; Traffic congestion/takes longer to get to work; Deforestation/loss of vegetation; Loss of habitat; Kills/scares wildlife; Disruption to food chains/ecosystems; Atmospheric pollution; Noise pollution; Visual pollution; Water pollution; Flooding; Loss of community spirit; Loss of open space/green fields; etc. 5 @ 1 mark or development	**5**

Question	Answer	Marks
2(c)	Levels marking Level 1 (1–3 marks) Statements including limited detail which <u>compare</u> the service provision in two settlements. No credit if no comparison Level 2 (4–6 marks) Uses named example. More developed statements which <u>compare</u> the service provision in two settlements. (**Note:** Max 5 if no named or inappropriate examples) Level 3 (7 marks) Uses named example. Comprehensive and accurate statements with some place specific reference. Content Guide: Answers are likely to refer to: Types of services, Amounts of services, Order of services, Quality of services – so poor/good fine, only here. Spheres of influence, Convenience and specialist goods/services; Specific service types e.g. shops, schools, health care etc. Transport e.g. bus routes, railways station etc. Place specific reference is likely to consist of: Locational details, Specific details/names of services Named parts of settlement etc. Statistics	7

Question	Answer	Marks
3(a)(i)	19 (ºC)	**1**
3(a)(ii)	Difference between dry bulb and wet bulb temperature/14–9 = 5 (ºC) Relative humidity = 51(%) 2 @ 1 mark	**2**
3(a)(iii)	**Weather instrument kept inside a Stevenson Screen:** Maximum and minimum thermometer/wet and dry bulb thermometer/barometer **Weather instrument which consists of a funnel and measuring cylinder:** Rain gauge **Weather instrument which should be positioned in an open area at least 10 metres above ground level:** Wind vane/anemometer 3 @ 1 mark	**3**
3(a)(iv)	**Wind vane:** Arrow with compass points around; Observe direction the arrow is pointing; Arrow points to direction wind is blowing <u>from</u>; Observe at regular intervals/set times; **Anemometer:** Cups which catch wind/rotate; Observe at regular intervals/set times (no double credit); Observe electronic display/look at figures/displayed digitally; In km per hour Note: **1 mark reserved** for each instrument If no instrument is named then only credit the set times idea. 4 @ 1 mark	**4**
3(b)(i)	Ideas such as: High/above 0 ºC temperatures from April to October (or any months within this period)/in summer/hig<u>hest</u> in July; Very low/below zero temperatures from November to March/winter/lowest in January; OR (alternative to the two ideas above) Increases from Jan–July; Decreases from July/August to December; Use of statistics to illustrate variation (**Max 1 reserved**) Note: must be two months with correct statistics, or just one figure for the range. No units or figures without negatives=0 Statistics: January: -12/–13 º<u>C</u> July: 18/19 º<u>C</u> Range: 30–32 º<u>C</u> 3 @ 1 mark	**3**

Question	Answer	Marks
3(b)(ii)	April (**1 mark reserved**) No credit if no month or January or August chosen Ideas such as: High rainfall; Wet months preceding saturated soil/rock; Much runoff is overland; (Low temperatures) so not much evaporation; (Temperatures below zero) in previous month result in snow/ice accumulation; Temperatures rise above zero/from –5 to 3 °C; Melting snow (adds to discharge); Not much vegetation/crops/leaves to intercept water/take up water; Etc. **Note:** Accept reasons for rejecting January or August as long as they are listed above, but no double credit 5 @ 1 mark or development	**5**

Question	Answer	Marks
3(c)	Levels marking Level 1 (1–3 marks) Statements including limited detail which describe the impacts of flooding. e.g. Damage to roads (L1) so can't get to work (L2) Level 2 (4–6 marks) Uses named example. More developed statements which describe the impacts of flooding. (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: Deaths, Damage to housing, Damage to possessions, Transport disrupted, Electricity cut off, Water supplies contaminated, Economic impacts, Loss of crops etc. Fertile soil Impact on natural environment Place specific reference is likely to consist of: Locational details, named places along the river/in the drainage basin, specific details of impacts date/time etc. Statistics	7

Question	Answer	Marks
4(a)(i)	North east of Rome in the Lazio region	1
4(a)(ii)	(Earthquake) It caused the earth's crust/land to shake/vibrate/caused shockwaves; Dislodging/loosening the snow/causing it to slip/fall; Earthquake waves spread within the crust/underground from epicentre etc. 2 @ 1 mark	2
4(a)(iii)	Ideas such as: Very cold conditions; Fear of further avalanches; Blizzards/strong winds; Roads blocked/ski to get there; Darkness etc. 3 @ 1 mark	3
4(a)(iv)	Ideas such as: They have lived there all their lives/sentimental attachment; They have jobs/education in the area; Cannot afford to move; Population pressure/nowhere else to live; Close to family/friends; Confidence in earthquake resistant buildings; Willing to take the risk/not happen as often; Etc. 4 @ 1 mark	4
4(b)(i)	Ideas such as: Bare rock/rock(y); Steep slopes; Grey; Mud/water/hot spring; Ash: Yellow/sulphur deposits; Smoke/gas; Bowl shape; Etc. 3 @ 1 mark	3
4(b)(ii)	Ideas such as: Plates converge (check diagram for this as well); Subduction/one goes under; Heavier/denser (oceanic) plate (moves under lighter (continental) one); Heat/friction; Melting/destruction of plate material; Build up of magma; Pressure; Escapes through weakness/crack etc. No reserve on diagram. Labels must explain. Do not double credit ideas. 5 @ 1 mark or development	5

Question	Answer	Marks
4(c)	Levels marking **Note: Impacts not hazards** Level 1 (1–3 marks) Statements including limited detail which describe the impacts of a volcanic eruption. Level 2 (4–6 marks) Uses named example. More developed statements which describe the impacts of a volcanic eruption. (Note: Max 5 if no named or inappropriate example) Level 3 (7 marks) Comprehensive and accurate statements which describe the impacts of a volcanic eruption, including place specific details. Content Guide: Answers are likely to refer to: Deaths: people=1, animals=1. Damage to housing, Damage to possessions, Transport disrupted, Electricity cut off, Water supplies contaminated, Economic impacts, Loss of crops Flooding Dust clouds Forests damaged Loss of habitat Fertile soils Tourism Mining Place specific reference is likely to consist of: Locational details, named places on or close to the volcano, specific details of impacts date/time etc. Statistics	7

Question	Answer	Marks
5(a)(i)	7.6/7.61 (million)	**1**
5(a)(ii)	increase; from 7.6/7.61 to 9.4/9.42 **or** by 1.8–1.82 million 2 @ 1 mark	**2**
5(a)(iii)	Ideas such as: Variations in price/package holiday availability ; Improvements in transport methods/e.g. airports; competition; Impacts of boost/decline in economy/value of currency/exchange rate; Changes in taste/preference/fashion; Political issues/terrorism/war/conflict; Variation in weather/sunny one year; Hotels/resorts/amusement parks built; Natural disasters/volcanic eruption or other e.g.; Advertising; Restricting/boosting tourist numbers by Government (e.g. investment or ecotourism); Note: International and internal tourism 3 @ 1 mark	**3**
5(b)(i)	Attractions such as: Beach; Coastal scenery/cliffs/headlands/bays; Mountains; Tropical vegetation; Restaurants/hotels/apartments; Souvenir shops; Traditional/old buildings; Calm/blue sea; Beach facilities such as umbrellas/sunbeds Etc. 3 @ 1 mark	**3**

Question	Answer	Marks
5(b)(ii)	Ideas such as: Work/more money; Improved water/electricity system; Improved/new roads; Airport; Market/profit for local products/businesses; Cultural exchange/learn new language; (New) shops/restaurants or other relevant e.g.; etc. 1 mark for simple idea + development for detailed explanation e.g. improved roads (1) so people can travel more easily (2); people can get jobs (1) so that they can earn a regular income/look after their family (2) Note: No double credit for identical ideas or development. e.g. shops (1) people can use (1) have a job in (1) but no double credit for stem idea of shop. 2 @ 2 mark	**4**
5(b)(iii)	Ideas such as: Loss of vegetation/deforestation; Threats to habitats; Impacts on food chains/ecosystems; Disrupts breeding patterns; Water pollution/oil spills; Kills fish/animals; Noise scares animals; Feeding of animals makes them dependent on humans/inappropriate diet; Air pollution (from vehicles/aircraft); Damage to coral; Overfishing; Water table lowers; etc. 5 @ 1 mark or development	5

Question	Answer	Marks
5(c)	Levels marking Level 1 (1–3 marks) Statements including limited detail which explain how tourism is managed so that it is sustainable. Add litter bins (L1) and empty them daily (L2) Tourist numbers restricted (L1) to correct figure e.g.100 per day (L2) Ecotourism (L1) Use of bikes (L1) Level 2 (4–6 marks) Uses named example. More developed statements which explain how tourism is managed so that it is sustainable. (**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 could refer to ideas such as: National Parks, Biosphere reserves, Fencing/limited access, signs, education, ecotourism, use of local resources/labour, limiting numbers of people/vehicles etc. Place specific reference is likely to consist of: Locational details/named areas within destination/region chosen Specific details of methods etc. Statistics Example should be smaller than a country, unless relevant e.g. Malta.	7

Question	Answer	Marks
6(a)(i)	(Natural) gas	1
6(a)(ii)	Ideas such as: Coal: Reduced/30% <u>to</u> 26/27% **or** declined by 3–4%; Oil: Reduced/14/15% <u>to</u> 2/3% **or** declined by 11–13% ; Gas: Reduced/43% to 27% **or** declined by 16%; Total decline in use from 87/88% to 55–57% 2 @ 1 mark	2
6(a)(iii)	Ideas such as: Import bill reduced; Benefits balance of trade; Cheaper running costs; Prices fluctuate; Less reliance on a fuel which is non-renewable/will eventually run out; Reduces specified impact(s) on natural environment e.g. air pollution, global warming/CO_2; Avoids threat to supply restriction if there are political disputes/become less dependent on oil; Avoids problems of oil spillages/pipeline leakages/explosions; Etc. 3 @ 1 mark	3
6(a)(iv)	**Benefits** such as: Low running costs; Does not produce air pollution/CO_2; Does not contribute to global warming; Uses small quantities of uranium/raw material; Uranium has no other uses Problems such as; Threat of radiation/meltdown; Difficult to dispose of nuclear waste; Expensive building costs; Nuclear power stations could be damaged by earthquake etc. 2+2 marks 4 @ 1 mark	4
6(b)(i)	Ideas such as: Clear skies/lots of sunshine; Large areas of land/open space; Lots of/high/strong winds/usually windy; No shelter from winds/sunshine (by buildings etc.) etc. No reserve on solar/wind 3 @ 1 mark	3

Question	Answer	Marks
6(b)(ii)	Ideas such as: **Opponents will argue**: Visual impact/can be seen for many miles; Hotel owners may be worried about loss of tourism; Ecosystems disrupted by construction; Loss of habitat; Deforestation; Only small amount of energy can be generated relating to initial cost; Energy will only be generated when sun is shining/doesn't work at night; Loss of farming land/land can be used for other purposes; **Supporters will argue:** Low running costs; No air pollution/gases/CO_2; Less likely to cause global warming; Energy supply will never run out; Creation of employment <u>for</u> construction/maintenance; etc. **Note: Reserve 1 mark for opponents/supporters** 5 @ 1 mark or development	5

Question	Answer	Marks
6(c)	Levels marking Level 1 (1–3 marks) Statements including limited detail which list methods of water supply. e.g. rivers (L1), reservoirs (L1),aquifer (L1) Level 2 (4–6 marks) Uses named example. More developed statements which explain how water supply is being managed to ensure future supplies. (**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 issues such as: Reservoirs, Use of water from aquifer, Desalination, Water transfer pipelines, Restrictions on use, Cloud seeding Conservation Water treatment Grey water Etc. Place specific reference is likely to consist of: Locational details/named areas within country/area chosen Specific schemes etc. Statistics	7