GEOGRAPHY **0460/13**

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.

Mark schemes should be read in conjunction with the question paper and the Principal Examiner Report for Teachers.

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This document consists of **17** printed pages.

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 e.g. (6 marks)

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

Question	Answer	Marks
1(a)(i)	(Change in population as a result of) difference in number of births and deaths / birth rate minus death rate or births minus deaths.	1
1(a)(ii)	13.3 – 7.4 (per 1000) (1st mark) = 5.9 (per 1000) (2nd mark) 2 @ 1 mark	2
1(a)(iii)	Ideas such as: birth rates are low / death rate higher than birth rate / reason for a high death rate (must be MEDC context); availability / affordability of contraception; contraception – education about it; modern attitudes to family size / people now having smaller families / high cost of having children; women have careers; education of women; emancipation of women; impact of secular society; low infant mortality rates; government support for old age; abortion made legal / available; later marriages; same gender partners etc. 3 @ 1 mark	3
1(b)(i)	Ideas such as: Between tropics; Central Africa / middle of Africa; South of Sahara / sub-Saharan area; 2 or more examples – Mali / Chad / Somalia / Angola / (DR) Congo / Sierra Leone / Burkina Faso / Central African Republic; Sahel; Clustered / next to each other; Unevenly spread; Majority of countries are landlocked. 3 @ 1 mark	3

Question	Answer	Marks
1(b)(ii)	Ideas such as: Poor health care / clinics / hospitals / remote from healthcare; Lack of doctors / nurses; Poor food supply / malnutrition / starvation / crops don't grow; Water in not clean / water in short supply / drought; Sanitation / hygiene poor; Lack of vaccinations; War / conflict; Waterborne disease e.g. malaria / typhoid / cholera AIDS / HIV; Poor education about diet / healthcare / sanitation; Lack of medicines / cures for diseases / high cost of medicines; Cultural impact specified – for example, girls neglected. 4 @ 1 mark	**4**
1(b)(iii)	Ideas such as: people are likely to have many children / large families / people will reproduce more; as they think that many will not live long / in the hope some will survive / to replace children who die / know that lots are going to die; they want children to help on the land; they want children to help in the home; they want children to help to collect water / firewood; they want children to earn money when they are old enough / to work; to look after siblings; to look after parents in old age; there are no pensions / state benefits for elderly 5 @ 1 mark or development	**5**

Question	Answer	Marks
1(c)	Levels marking Level 1 (1–3 marks) Statements including limited detail which describe a population policy used to influence growth rate. Level 2 (4–6 marks) Uses named example. More developed statements which describe a population policy used to influence growth rate. (**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. **Note:** Development is of the policy. Not impacts. Not reasons for the policy. Exceptions are acceptable – up to 1 × L2. "One Child Policy" can be developed up to 2 × L2 – one for specified incentives and one for specified disincentives. Content Guide: Answers are most likely to refer to anti-natal policy and could include ideas such as: one child policy / limit number of babies / restrict number of children advertise the benefits of small families educate people about contraception legalise abortion make (free) contraceptives available examples of specific incentives (e.g. free education, free health care) introduce pensions for elderly examples of disincentives (e.g. if have a 2nd child e.g. fines, lose jobs reduce benefits for people having children e.g. reduced maternity leave / child benefit / child tax credits) forced sterilisation free goods e.g. radios in India educate women to encourage them to take jobs or careers marriage regulations e.g. late marriage / seek permission gender equality acts etc. (The reverse ideas would apply to pro-natal policies) **Note:** Development should refer to the policy itself not reasons or explanations for it. Place specific reference is likely to consist of: Named parts of the chosen country, Population data Reference to a specific named policy / specific details about it etc.	

Question	Answer	Marks
2(a)(i)	Village (can mark it in any way)	1
2(a)(ii)	The larger the population size the smaller the number of settlements (or vice versa) / there are many small settlements but only few large ones; The larger the population size the larger the sphere of influence (or vice versa) 2 @ 1 mark	2
2(a)(iii)	Ideas such as some large settlements: are on flat land / have room for expansion; have industry / factories / businesses; have markets for surrounding area / trade from surrounding area; experience in-migration; have commercial / retail development; grow due to mining / raw materials / extraction of resources; are at meeting of roads / route center / transport links meet together / good access / good transport links; are in central locations; port; settlements merge into a larger one 3 @ 1 mark **Note:** Accept vice versa but do not double credit.	3
2(b)(i)	B D A C All 4 correct = 3 marks 2 or 3 correct = 2 marks 1 correct = 1 mark	3
2(b)(ii)	Ideas such as: Low order services are used by most people / they are essential items / needed every day / needed by all people; Low order services are used frequently; People will not travel far to use low order services / smaller sphere of influence; And often walk / cycle to get to them; So they need to be close to everyone's homes; Low threshold population etc. 4 @ 1 mark	4

Question	Answer	Marks
2(b)(iii)	Ideas such as: Middle and high order settlements have large populations; and also people travel there from the surrounding smaller settlements; as they have a large sphere of influence; so the shops will do good business / make a profit; they need a large threshold population; middle and large order settlements will have CBDs / malls where other similar shops are located; if located there people using other services may use them too; middle and high order settlements will have good transport networks; (**Note:** Accept reverse ideas in relation to low order settlements) 5 @ 1 mark or development	**5**
2(c)	<u>Levels marking</u> <u>Level 1</u> (1–3 marks) Statements including limited detail which explain the causes of the chosen urban problem. <u>Level 2</u> (4–6 marks) Uses named example. More developed statements which explain the causes of the chosen urban problem. (**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. <u>Content Guide:</u> Answers will depend on chosen urban problem: e.g. Traffic congestion: Inadequate public transport High car ownership Poor road network Large population Lots of people commuting to work Most businesses / workplaces / schools in similar location Most workplaces start / finish at the same time etc. Place specific reference is likely to consist of: Locational details / named areas within / around the urban area, Specific details of problems / causes etc. **Note:** Focus on causes and development is of the explanation	**7**

Question	Answer	Marks
3(a)(i)	Strato-volcano (composite)	**1**
3(a)(ii)	X = Magma chamber Y = Crater 2 @ 1 mark	**2**
3(a)(iii)	Ideas such as a shield volcano: has gentle slopes / flatter; does not have alternative layers of ash and lava / just made of lava; has a wide base / wider; lower; made of runny lava / less viscous lava; less explosive / less violent eruptions; unlikely to have parasitic cones or side vents etc. **Note:** can accept composite cone angle as long as they identify that is what they are writing about. 3 @ 1 mark	**3**
3(a)(iv)	Ideas such as: On plate boundaries; Especially on destructive margins / where plates move towards each other; e.g. Pacific Ring of Fire or appropriate example; And constructive margins / where plates move apart; e.g. mid Atlantic Ridge or appropriate example; Some in middle of plates / hot spots; Uneven / clustered / long narrow belts; 4 @ 1 mark	**4**
3(b)(i)	Ideas such as: Close to plate boundary / constructive plate boundary; Plates are moving away from each other / diverging / plates separate; Gap created; Magma can reach the surface etc. 3 @ 1 mark	**3**

Question	Answer	Marks
3(b)(ii)	Ideas such as: Employment in tourist industry; e.g. tourist guides; fertile soils; high yield from crops; sulphur deposits / quarries / mines; they have lived there all their lives / emotional ties / religious ties; friends and family live in the areas; their jobs / school are there; geothermal power; scenic beauty / good view; to study the volcano / research / scientists; cannot afford to leave; hot springs; confidence in prediction; people are prepared to task the risk / think it safe; well-developed evacuation routes / safety precautions; population pressure / there isn't enough land to live on; 5 @ 1 mark or development	**5**

Question	Answer	Marks
3(c)	<u>Levels marking</u> <u>Level 1</u> (1–3 marks) Statements including limited detail which explain the impacts of an earthquake. <u>Level 2</u> (4–6 marks) Uses named example More developed statements which explain the impacts of an earthquake. (**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: Deaths Injuries Destruction of homes Loss of workplaces Fires Damage to infrastructure Disruption of transport network, Loss to economy 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 e.g. number of deaths **Note:** Statistics can be developed up to a maximum of 1 × L2. Not a country as example unless a small country or whole area affected such as Haiti.	7

Question	Answer	Marks
4(a)(i)	Beach	1
4(a)(ii)	Characteristics such as; Solid rock / hard rock; Flat / gently sloping; but not perfectly smooth / contains rock pools / joints Located at base of cliff / under the cliff / front of cliff; May be (covered by) loose rocks / pebbles / seaweed / small rocks / shingle; 2 @ 1 mark	2

Question	Answer	Marks
4(a)(iii)	Ideas such as: erosion (of cliffs); hydraulic action / abrasion / solution or description of process; wave cut notch formed; undercutting; collapse of overhang / cannot support weight; retreat of cliffs / leaves base at cliffs / headland retreats; smoothing by waves etc. 3 @ 1 mark	**3**
4(a)(iv)	Ideas such as: alternate bands of hard and soft rock along coasts with bays and headlands; hard rock resists erosion; hard rock forms headlands; soft rock easily eroded; soft rock form bays; differential erosion; 4 @ 1 mark	**4**
4(b)(i)	Photograph E = Tourism Photograph F = Port / harbour / trade Photograph G = Fishing Can write a sentence to describe an opportunity from the photograph – for example, people can go on holiday or people are employed in hotels. 3 @ 1 mark	**3**
4(b)(ii)	Ideas such as: (coastal) erosion; which causes properties to collapse / be damaged; or results in loss of gardens / farmland; or damage to roads / paths / parking areas ; coastal flooding / rising sea levels; (tropical) storms / hurricanes / cyclones / typhoons; which damage port installations / boats; tsunami; rock falls / cliff collapse etc. 5 @ 1 mark or development	**5**

Question	Answer	Marks
4(c)	<u>Levels marking</u> <u>Level 1</u> (1–3 marks) Statements including limited detail which describes how coastal hazards are being managed. <u>Level 2</u> (4–6 marks) Uses named example. More developed statements describes how coastal hazards are being managed. (**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: Hard and soft engineering methods of managing erosion e.g. groynes / sea walls / revetments / beach nourishment etc. Sea defences to manage flooding; Managed retreat; Provision of cyclone shelters Education re emergency evacuation procedures Planting of mangroves Vegetation on slopes Place specific reference is likely to consist of: Locational details, named places along coast specific details of management strategies etc. **Note:** Example is not a country unless small such as Hawaii or Mauritius	7

Question	Answer	Marks
5(a)(i)	<u>Human Development Index</u>	1
5(a)(ii)	Ideas such as a lack of: Food / malnutrition / starvation; Shelter / housing; Education for their children / low literacy rates; Health care; Lack of clean water: Lack of sanitation; High crime rate etc 2 @ 1 mark	2

Question	Answer	Marks
5(a)(iii)	Ideas such as: it is a composite index / it is not based on income alone / it includes three different indicators; life expectancy / income / education; it can be used to directly compare countries / allows you to rank countries; values can be used to note changes over time etc. 3 @ 1 mark	**3**
5(a)(iv)	Ideas such as: Malaysia is likely to have more industry (or example) / there will be different amounts of industry; Malaysia could have more (natural) resources (or example) / there will be different amounts of resources; Malaysia exports more than Zambia / they will be different amounts of exports; Malaysia may have more stable government / stability of government may vary; Zambia may have been more adversely affected by colonialism; Malaysia may have better infrastructure / roads / ports / there will be variation in the infrastructure / roads / ports; People in Malaysia are better educated / have developed more skills / there will be variation in levels of education / skills; Malaysia may have better healthcare or examples / there will be different amounts of healthcare; Malaysia may have better hygiene / sanitation / clean water / there will be variations in the hygiene / sanitation / provision of clean water; A country may be landlocked or not; There may be a predominance of subsistence farming; There may be more tourism ; Impact of war / conflict; Zambia may have lower wages than Malaysia etc. 4 @ 1 mark	**4**
5(b)(i)	<u>Reduce birth rates</u> It provides family planning / education for family planning / mother and baby care reduces IMR which reduces BR; <u>Reduce death rates</u> It treats diseases / provides vaccinations / creates AIDS awareness / educates people about healthy diet / hygiene / education about disease prevention <u>Increase literacy</u> More children will be able to attend school 3 @ 1 mark	**3**

Question	Answer	Marks
5(b)(ii)	Potential changes in any one development indicator should be chosen as follows: Increase in GDP / HDI / life expectancy or reduction in population below poverty line (1 mark RESERVE) **Increase in Life Expectancy:** More treatment for disease; Better healthcare provided; More health workers / doctors/nurses; Education about how to stop disease; Know how to keep their environment clean; Know how to prevent the transfer of AIDS / HIV etc **Increase in GDP:** People become healthier; So that they can be more productive; Output will increase / more exports; More children will be attending schools; So skills levels of workforce will improve etc **Note:** Not direct copying from the text. Candidates should put into their own words or the context should show further understanding. Reasons must match the indicator chosen. 5 @ 1 mark or development	**5**

Question	Answer	Marks
(c)	<u>Levels marking</u> <u>Level 1</u> (1–3 marks) Statements including limited detail which describe the impacts of a transnational corporation. <u>Level 2</u> (4–6 marks) Uses named example. More developed statements which describe the impacts of a transnational corporation. (**Note:** Max 5 if no named or inappropriate example) <u>Level 3</u> (7 marks) Uses named example. Comprehensive and accurate statements including some place specific reference. <u>Content Guide:</u> Answers are likely to refer to: Creation of jobs Wealth creation Infrastructural development Development of communications network Exploitation Low wages Specified pollution etc. Place specific reference is likely to consist of: Specific details about TNC Named areas where TNC operates Statistical detail	7

Question	Answer	Marks
6(a)(i)	Farming (to produce crops / animals) which are sold / to make money / to take to market / to make a profit / for business / for a company etc.	1
6(a)(ii)	Jute is grown in central area / close to rivers Sugar cane is grown in the west / close to border / near to international boundary; 2 @ 1 mark	2
6(a)(iii)	Ideas such as: the crops are bulky; so that the crops can easily be transported to the factory / there is less distance for the crops to be transported; it reduces the cost of transport; the crops get to the factory while they are still fresh / reduces time to get to the factory / avoids damage to the crops in transit; transport infrastructure is poor in Bangladesh etc. 3 @ 1 mark	3

Question	Answer	Marks
6(a)(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); 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); 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. Government policies (1) incentives (or example) may attract industry to an area (1) etc. One mark for identification of appropriate factors and a further mark for explanation. Candidates can access the second mark without the first. 2 @ 2 marks	**4**
6(b)(i)	Ideas such as: Acreage of tea increased; By 14% Acreage of sugar cane decreased; By 33% / –33% change 3 @ 1 mark	**3**
6(b)(ii)	Ideas such as: more mechanisation / technology / more machines or example; use of fertilisers / manure; use of pesticides / herbicides / insecticides; greater use of irrigation; better quality seeds / HYVs; GM crops / GMO – genetically modified organisms; Crop rotation / leave fields fallow; Greenhouses / plastic tunnels; Hydroponics; Aeroponics; Educate farmers about crop rotation / machines etc. 5 @ 1 mark or development	**5**

Question	Answer	Marks
6(c)	<u>Levels marking</u> <u>Level 1</u> (1–3 marks) Statements including limited detail which explain how the natural environment has influenced how the land is used. <u>Level 2</u> (4–6 marks) Uses named example. More developed statements which explain how the natural environment has influenced how the land is used. (**Note:** Max 5 if no named or inappropriate example) <u>Level 3</u> (7 marks) Uses named example. Comprehensive and accurate statements including some place specific reference. <u>Content Guide:</u> Answers are likely to refer to: relief, precipitation temperatures sunshine soils natural hazards etc. Place specific reference is likely to consist of: Locational details; Names of places within chosen area Specific details / statistics of soil / climate etc. **Note:** The factors are natural. No link to land use and the answer is IR.	**7**