Cambridge Pre-U

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Cambridge Assessment International Education
Cambridge Pre-U Certificate

GEOGRAPHY **9769/03**

Paper 3 Geographical Issues **May/June 2019**

MARK SCHEME

Maximum Mark: 105

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 **16** printed pages.

Cambridge Assessment International Education

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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.

Section A: Tectonic Hazards

Question	Answer	Marks
1(a)	**Define the term *volcanic hot spots*.** Areas of increased heat flow where magma forces its way to the surface.	**2**
1(b)	**Describe the distribution of volcanic hot spots shown in Fig. 1.1.** They occur either at intra plate locations (e.g. in the Pacific Ocean) and at individual locations along divergent plate boundaries. They are unrelated to subduction zones. Two marks each for description covering these two main locations.	**4**
1(c)	**Briefly compare the hazards associated with hot spot volcanoes with those associated with volcanoes created by subduction.** Hot spot volcanoes are mostly of the effusive type with fast flowing basaltic lava and sometimes volcanic bombs and tephra. Volcanoes at subduction zones are more explosive with acidic lava that has a high viscosity. However, the main hazards are pyroclastic flows, ash clouds and perhaps lahars as secondary hazards. Answers should recognise these differences and base their analysis of hazards according to the different characteristics. **Candidates show:** **L3** A thorough understanding of the differences between the hazards associated with the two types of volcanoes with reference to the products associated with each eruption. The discussion will be balanced probably with the use of relevant specific examples to underpin the comparison. **[4–5]** **L2** Some understanding of the hazards associated with the two types of volcanoes but is limited in some respect. The range of hazards discussed may be somewhat limited with some inaccuracies concerning the hazards. Thus, the nature of pyroclastic flows may be inaccurate. **[2–3]** **L1** Little understanding of the nature of the two types of volcanoes, with an inaccurate account of the specific hazards. Answers will struggle to provide a comparison. **[0–1]**	**5**

Question	Answer	Marks
1(d)	**'The long-term impacts of earthquakes are greater than those in the short term.'** **How far do you agree with this statement?** The discussion needs to be based on a good understanding of the consequences of the hazards associated with earthquakes. The main hazards are associated with building collapse, soil liquefaction, tsunami, landslides and other mass movements. Candidates are free to define long term and short term in their own way but the definition needs to be realistic. There needs to be coverage of both primary and secondary hazards. **Candidates show:** **L3** A thorough understanding of the differences between long term and short term consequences with a reasoned assessment. An understanding of the nature of the hazards, both primary and secondary and are able to relate these to short term and long term consequences. **[8–9]** **L2** Some knowledge of the hazards posed by earthquakes and a partial understanding of the differences between long term and short term consequences with a somewhat limited or incomplete assessment. **[5–7]** **L1** Little understanding of the hazards associated with earthquakes and a limited ability to discuss short and long term consequences. There is no or an inaccurate assessment present. **[0–4]**	**9**

Section A: Meteorological Hazards

Question	Answer	Marks
2(a)	**State <u>two</u> types of fog.** The main types are advection and radiation fog but some authorities also stipulate mountain upslope fog and valley fog. Smog is also acceptable.	**2**
2(b)	**Using Table 2.1, compare the monthly number of hours of fog at the two locations.** They are essentially similar January to March but with location B having considerably more hours of fog in January. The numbers of hours of fog for the months April to July are also similar but from October to the end of the year, the values fluctuate. Three points for three marks, one mark reserved for the use of data.	**4**
2(c)	**Briefly explain the formation of <u>one</u> type of fog.** The two main mechanisms involve advection or radiation. Advection entails the movement of warm air over a cold surface, with cooling of the air leading to condensation. Radiation fog entails the radiation cooling of the ground surface at night with clear skies and calm conditions leading to the cooling of the air near the ground surface and subsequent condensation. There is no necessity to cover both aspects. **Candidates show:** **L3** A thorough understanding of the conditions that lead to the formation of one type of fog, either advection or radiation. **[4–5]** **L2** Some understanding of the conditions that lead to the formation of one type of fog but with some limitations or lack of detail. **[2–3]** **L1** Little understanding of the conditions that lead to the formation of fog. **[0–1]**	**5**

Question	Answer	Marks
2(d)	**Examine the view that it is easier to manage meteorological hazards at the local rather than the regional scale.** There needs to be understanding of the nature of atmospheric hazard and how they might be differentiated into regional and local scale. Regional scale hazards are essentially tropical storms and cyclones. Local scale hazards are tornadoes, hail, blizzards and fog. Management which involves modifying the risk, modifying the hazard, modifying the loss, will depend on the hazards chosen and the scales at which they operate. **Candidates show:** **L3** A thorough understanding of the nature of the chosen atmospheric hazards and how they operate at different spatial scales. The evaluation of ease of management should reflect these spatial scales and the nature of the hazards. It will not be necessary to cover all the local scale hazards listed in the syllabus in the same detail, but there should be recognition of the range of such hazards. **[8–9]** **L2** An incomplete understanding of the spatial scales over which the atmospheric hazards occur. A somewhat limited analysis of the variation of local scale hazards and only a partial appreciation as to how the nature and scale of the hazards affect ease of management. **[5–7]** **L1** Little understanding of the spatial scales over which atmospheric hazards occur with only a brief, if any, discussion of the various local scale hazards and little ability to evaluate how scale and hazards affect the ease of management. **[0–4]**	**9**

Section A: Hydrological Hazards

Question	Answer	Marks
3(a)	**Define the hydrological term *throughflow*.** The downslope movement of water within the soil parallel to the soil surface.	2
3(b)	**Describe the distribution of areas where 16 per cent or more of residential addresses are at risk of flooding shown in Fig. 3.1.** There are four main areas, north Devon and Somerset, central London, the east coast around the Wash and Humber Estuary, Central Wales and in the central highlands of Scotland. There are, in addition, small patches scattered over the countries. Four points for four marks, full coverage of the areas is needed for maximum marks.	4
3(c)	**Briefly explain how land use change in a drainage basin may lead to an increase in flooding.** The emphasis is on briefly. A variety of land use changes could be discussed such as urbanisation, deforestation and the change of agricultural use. The key is how these changes affect the operation of the drainage basin hydrological cycle and thus lead to rapid runoff and potential flooding. **Candidates show:** **L3** A thorough understanding of potential land use changes and the way such changes affect the rapid movement of water to the river channel and therefore the increased potential for flooding. **[4–5]** **L2** Some understanding of the way land use changes affect the increased potential for flooding but with a lack of detail in the description of the changes and the effect on drainage basin hydrology. **[2–3]** **L1** Little understanding of what causes flooding and therefore are unable to discuss the significance of land use changes. **[0–1]**	5

Question	Answer	Marks
3(d)	**Assess the ways in which the impacts and consequences of flooding differ according to the level of development.** This is about the ability of areas at differing levels of development to cope with flooding and should relate to the vulnerability of the people and settlements and the ability to respond to the flooding. Impacts will also depend on the type and level of infrastructure and factors such as the density of settlements. Short and long term consequences should also be considered. **Candidates show:** **L3** A thorough understanding of the impacts and consequences of flooding and are able to evaluate how these impacts and consequences are affected by the level of development of the area affected. It would be expected that the answer uses detailed specific examples of floods to illustrate the assessment. **[8–9]** **L2** Some understanding of the impacts and consequences of flooding but with a limited evaluation of how these impacts and consequences are affected by the level of development. Specific relevant examples might be lacking or of limited detail. **[5–7]** **L1** Little understanding of the impacts and consequences of flooding and are not able to assess how this is affected by the level of development. Specific examples will probably be missing. **[0–4]**	9

Section B: Crime Issues

Question	Answer	Marks
4(a)	**State two types of crime against people.** The syllabus lists violence, racial crimes and child prostitution but there may be others that are acceptable.	**2**
4(b)	**Compare the trends in murder rates shown in Fig. 4.1.** All trends, except Wales, have declined. The English rates have declined the least with the greatest drop being for Scotland. Four points for four marks.	**4**
4(c)	**Briefly explain why vulnerability to crime varies within the built environment.** There are a variety of factors that could be discussed here but they will mostly be related to variations in population density, housing type and degree of affluence of particular city zones. The syllabus lists vulnerability of crime (which might be related to accommodation type, location of housing), socio-economic characteristics that could be related to specific areas of cities, and the characteristics of the built environment, all related to different parts of cities. **Candidates show:** **L3** A thorough understanding of the relations between types of crimes and specific characteristics of different parts of the built environment. Specific examples are used to underpin the analysis. **[4–5]** **L2** Some understanding of the relation between crime and characteristics of the built environment but with some lack of specific detail. The range of factors will be somewhat limited with little exemplification. **[2–3]** **L1** Little understanding of the relation between crime and the characteristics of the built environment. A descriptive and inaccurate account with no examples. **[0–1]**	**5**

Question	Answer	Marks
4(d)	**Evaluate ways in which national scale initiatives can minimise the risk of crime.**	9
	The syllabus lists a number of national strategies (increased visibility and CCTV, privatisation of public space, gated communities, increased policing, and strategies to alleviate socio-economic deprivation) that can minimise crime. Answers need not be comprehensive but there needs to be more than one initiative discussed in a meaningful way.	
	Candidates show:	
	L3 A thorough understanding of at least two national initiatives that could minimise the risk of crime and are able to substantiate the discussion by specific examples with reference to specific types of crime. **[8–9]**	
	L2 Some understanding of at least two national initiatives that can minimise the risk of crime but lacking in detail and probably lacking specific examples. The discussion will be general with little reference to specific types of crime. **[5–7]**	
	L1 Little understanding of national initiatives that can minimise the risk of crime with no specific examples. **[0–4]**	

Section B: Health Issues

Question	Answer	Marks
5(a)	**Define the term *attack rate.*** The ratio of the number of people who contract a disease to the total number of people at risk to the disease.	2
5(b)	**Describe the pattern of mortality shown in Fig. 5.1.** High child and very high adult mortality is restricted to Africa. High child and high adult mortality is more spatially spread being in north-west Africa, India and parts of the Middle East. Low child and high adult mortality is confined to Russia and Central Asia, while low child mortality and adult mortality occurs in Eastern Europe and China and in western Europe. Four points for four marks.	4
5(c)	**Briefly explain how variations in affluence can affect health.** The syllabus lists links to obesity, osteoporosis, coronary heart disease and deficiency diseases. It would be expected that at least two examples of the way affluence affects health would be covered. **Candidates show:** **L3** A thorough understanding of the links between affluence and health with relevant specific examples. A good coverage of the relevant factors. **[4–5]** **L2** Some understanding of some of the links between affluence and health but lacking in detail. There will be a limited range of factors with little exemplification. **[2–3]** **L1** Little understanding of the links between affluence and health with no specific examples. **[0–1]**	5

Question	Answer	Marks
5(d)	**Evaluate the role of international organisations, such as the World Health Organization (WHO), in improving welfare and health care provision.** The answer requires knowledge of international organisations such as the World Health Organisation (WHO), and non-governmental organisations, and their role in health care provision and welfare. This will require understanding of how they operate. The WHO works through offices in more than 150 countries. Its main area of work is to direct and coordinate international health within the United Nations' system. It operates through health systems, promoting health through the life course, non- and communicable diseases, preparedness, surveillance and response. It also engages in emergency work. This is very similar to the work of NGOs. **Candidates show:** **L3** A thorough knowledge and understanding of the nature of international organisations, such as the WHO, and the ways that their global operation has improved welfare and health care provision, with an evaluation of their role using relevant specific examples. **[8–9]** **L2** Some understanding of the nature of international organisations, such as the WHO, with some analysis of their role in improving welfare and health care provision but with limited range and few specific examples. **[5–7]** **L1** Little understanding of the nature of international organisations, such as the WHO, or their role in improving welfare and health care provision and no or inaccurate evaluation. **[0–4]**	9

Section B: Spatial Inequality and Poverty Issues

Question	Answer	Marks
6(a)	**State <u>two</u> components of the Human Development Index (HDI).** The components are life expectancy at birth, expected years schooling for school-age children and average years schooling in the adult population and gross national income per capita.	**2**
6(b)	**Describe the pattern of percentage above and below average annual rural income by province in China shown in Fig. 6.1.** The coastal fringe has the highest above average rural income but with variations, the central provinces have generally the highest below average rural income with the far western provinces having an intermediate below average rural income. Four points for four marks. There needs to be a full coverage of the country for maximum marks.	**4**
6(c)	**Briefly explain the concept of core and periphery.** The concept of core-periphery is a model which describes and attempts to explain the structural relationship between the advanced centre and the less developed periphery. It can be applied to countries and regions as well to global considerations. **Candidates show:** **L3** A thorough understanding of the core-periphery model and are able to explain it with the use of relevant specific examples at a variety of spatial scales. **[4–5]** **L2** Some understanding of the core-periphery model, but the detailed explanation is lacking in specific detail. There may be little reference to specific examples. **[2–3]** **L1** Little understanding of the core-periphery model, or use of relevant examples. **[0–1]**	**5**

Question	Answer	Marks
6(d)	**With reference to specific examples, evaluate the success of <u>two</u> of the United Nations Millennium Development Goals.** The original Millennium Development Goals were 8 in number – eradicate extreme poverty and hunger; achieve universal primary education; promote gender equality and empower women; reduce child mortality; improve maternal health; combat HIV/AIDS, malaria and other diseases; ensure environmental sustainability and develop global partnerships for development. In 2015 they were reduced to 6, losing the second and eighth goal. Candidates have to choose two and evaluate their successes. **Candidates show:** **L3** A thorough understanding of the Goals and are able to discuss two of them and evaluate their success using relevant specific examples. **[8–9]** **L2** Some knowledge of two of the Goals but are only able to partially evaluate their success with little exemplification. **[5–7]** **L1** Little understanding of the Goals and are unable to evaluate the success of two of the goals. **[0–4]**	**9**

Section C

Question	Answer	Marks
7	**With reference to the geographical hazards in an area you have studied, assess how human activity may have affected the nature and frequency of those hazards.** **Indicative content** Much will depend on the level of knowledge and understanding of the area studied. This area can be at a variety of spatial scales. The expectation is that more than one hazard will be discussed in terms of its nature and incidence and the effect that human activity might have had. At lower levels, the detail concerning the specific area may be limited and inaccurate with very little realistic assessment. The question will be addressed only partially and the analysis may be based on limited exemplification, some of which may be irrelevant or inaccurate. The conclusion may be absent or simply asserted. At higher levels, the candidate will demonstrate a thorough knowledge and understanding of the chosen area and the nature of the hazards. The assessment will be based on reasoned argument using sound geographical knowledge. The exemplification will be detailed and relevant and will be used in a meaningful way to substantiate the arguments presented.	25

Question	Answer	Marks
8	**With respect to two geographical issues, discuss the extent to which they are global.** **Indicative content** The question requires the candidate to discuss two geographical issues and to assess how much those issues occur globally. Thus, there needs to be a balanced argument concerning the factors that affect those issues. At lower levels, the range and detail concerning the issues will be limited. The assessment will struggle to provide a reasoned argument and the conclusion may well be speculative and not based on rational argument. At higher levels, there will be good understanding of two geographical issues, examined with detailed and relevant examples and used to provide a good assessment of the extent to which they are global.	25

Question	Answer	Marks
9	'**It is better to manage the impacts of geographical hazards rather than to attempt to prevent them.'** **How far do you agree with this statement?** **Indicative content** Much will depend on the choice of hazards but the general analysis should relate to any hazards chosen, although the specific detail will vary. Answers require good knowledge of the nature of the hazards and their potential effects. This will form the basis of the analysis of the question. At lower levels, the knowledge of the hazards will be insecure with limited exemplification some of which may be irrelevant or inaccurate. The conclusion may be absent or simply asserted. At higher levels, the candidate will demonstrate a thorough understanding of the chosen hazards and be able to argue convincingly the relative merits of management and protection.	**25**