Cambridge Assessment International Education
Cambridge International Advanced Subsidiary and Advanced Level

GEOGRAPHY **9696/32**

Paper 3 Advanced Human Options **October/November 2017**

MARK SCHEME

Maximum Mark: 50

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 October/November 2017 series for most Cambridge IGCSE®, Cambridge International A and AS Level components and some Cambridge O Level components.

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

Cambridge Assessment
International Education

Question	Answer	Marks
1(a)(i)	**Fig. 1 shows artificial (inorganic) fertiliser use and rice yield in Indonesia, an LEDC/NIC in Asia, 1970–2010.** **Describe the relationship between fertiliser use and rice yield shown in Fig. 1.** A full description comprises a description of the overall trend (3 marks) with data support from Fig. 1 (reserve 1 mark). Positive relationship/both increase over time (1) At a variable rate (1) Rate of increase of yield slows/diminishing returns (1) No credit for describing year by year without a link to the relationship.	4

1(a)(ii)	**Briefly explain <u>three</u> problems which may arise from the use of artificial (inorganic) fertilisers to intensify agricultural production.**
	
	Any problems are valid at any scale, although each problem needs to be different. Possible problems include:
	
	   • economic, e.g. diminishing returns, farmers or nations getting into debt, growing inequalities between 'rich' farmers (who can afford the use of artificial fertilisers) and 'poor' farmers (who cannot), lower prices at market despite higher costs, overproduction
	   • social, e.g. disputes between farmers, health problems for agricultural labourers from poor handling of fertilisers, incorrect use by uneducated farmers
	   • environmental, e.g. deterioration in soil quality/soil erosion by overuse, pollution of water courses from runoff leading to eutrophication, loss of water biodiversity, abandonment of holdings
	   • political, e.g. mismanagement of government schemes/irregular supply, conflicts between government or agency and producers
	
	A full response consists of three developed problems with some exemplar support. For two problems, maximum 4 marks.
		6

Question	Answer	Marks
1(b)	**How far did the need to increase food supply cause agricultural change in <u>one</u> country you have studied?**	15
	An opportunity to use the case study from 1.2. The content and direction of the evaluation offered will depend on the nature of the case study used. A broader approach such as the European Union (formerly EEC) Common Agricultural Policy (CAP) or the Green Revolution may contain detail specific to one country.	
	Other reasons for agricultural change include land reform and the need to redistribute holdings, self-sufficiency or food security (as with the CAP), a desire to modernise agriculture, conditions attached to aid packages and SAPs (Structural Adjustment Programmes), and the aim to gain income or increase income from the export of agricultural commodities.	
	If more than one country, mark all and credit the best answer.	
	Level 3 **12–15** Response is structured as an assessment, showing strong conceptual understanding of agricultural change and the need to increase food supply. Argues convincingly and critically, using a detailed case study effectively.	
	Level 2 **7–11** A sound response which may be good in parts, but which remains limited in case study detail or overall development. May conclude a narrative about agricultural change with some assessment. At the lower end, may take a broad approach with a named country and give little specific detail.	
	Level 1 **1–6** Response gives a basic answer which may focus weakly on the need to increase food supply and agricultural change. Makes one or more valid points, but little or no meaningful assessment. Notes and fragments remain in this level.	
	For no response, or no creditable response **0**	

Question	Answer	Marks
2(a)(i)	**Explain the meaning of the term *functional linkages* with the help of examples from manufacturing and related service industry.** Functional linkages are the relationships, links or connections between one industry and another. They take a number of forms: forward to the industry that consumes the industrial product backward to the industry that provides the raw material(s) or component(s) vertical as a raw material goes through several successive production processes horizontal an industry relies on several/many others for supplies diagonal an industry makes something which can be used in several linked industries, e.g. screws A broader view of linkages includes many services such as finance, sub-contracting, maintenance, advertising, packaging, transport, etc. Credit the use of diagrams without the content needing to be described in words as well. Mark on overall quality, bearing in mind three bands of marks, 1–2, 3–4 and 5–6. For a response not clearly related to manufacturing, maximum 2 marks. For a response without examples, maximum 4 marks. For no response or no creditable response, 0.	6
2(a)(ii)	**Describe the effects of functional linkages on the location of manufacturing industry.** Candidates may focus on the choice of location, or effects on the location itself. An approach sees functional linkages as leading to agglomeration in order to save transport costs and maximise efficiency. Agglomeration may lead to positive or negative effects on the location such as increased pollution, congestion, strain on infrastructure, or regeneration/investment. An alternative approach acknowledges that functional linkages may have little or no effect on industrial location given global production networks, modern transportation which is relatively cheap and fast, and fast-changing relationships between suppliers, producers and purchasers. The response may be general, use generic examples, e.g. motor vehicles, or take a specific example such as a named industrial area where functional linkages exist. Mark on overall quality.	4

Question	Answer	Marks
2(b)	**Evaluate the attempts made to overcome issues in managing change in manufacturing in <u>one</u> country you have studied.** Taken from the case study (1.4) of 'issues faced' and 'evaluating the attempted solutions', this is broad to allow candidates to use the material they have. Recent 'issues' have included regime change, energy shortages, low quality of industrial labour and global competition. For a response about more than one country, mark each separately (with any general content) and award the highest mark. The syllabus dateline for guidance is 1970; however, pertinent content from before that date should be credited and there is no requirement to deal with the whole period since 1970. For example, a single 5-year plan after 2000 could provide material for a full response. **Level 3** **12–15** Response provides an effective evaluation, of both achievements and failures, giving a sense of contemporary reality about issues in industrial change in the country, with integrated supportive detail. **Level 2** **7–11** Response demonstrates reasonable to good knowledge and understanding of issues and attempts. It offers a partial or limited evaluation, maybe largely positive or negative, or separate from a narrative about industrial change. For a detailed response about one attempt, maximum 10. **Level 1** **1–6** Response finds it difficult to make more than descriptive comments about industrial change with limited focus on issues or attempts. Evaluation may be absent or simply stated. Makes a response of basic quality which may remain quite general. Offers notes or fragments. For no response or no creditable response **0**	15

Question	Answer	Marks
3(a)	**Explain why the balance between different sources of energy (the energy mix) varies between countries.** The balance between different sources of energy varies because of the interplay of a number of factors each of which may change. Sources are of two types, non-renewable (fossil fuels) and renewable, but development of the response is needed at the level of individual sources in the energy mix, such as coal and HEP. The syllabus lists factors 'including levels of development, resource endowment, capital, technology, pollution, energy policy'. Other factors may include supranational agreements, such as the Kyoto Protocol and its successors, and a growing concern in some countries for achieving energy security. Credit the use of examples. As the key verb is 'varies', a single example is unlikely to be effective. For a response without examples, maximum 6 marks. Mark on overall quality, bearing in mind three levels of award and bands of marks, 1–4, 5–7 and 8–10. For no response or no creditable response, 0.	10

Question	Answer	Marks
3(b)	**Assess the success of the overall electrical energy strategy of <u>one</u> country and identify the challenges which remain.**	15
	A question using the national scale case study from 2.2.	
	Better responses may have explicit success criteria, such as energy demand being met, capacity building for the future, or avoiding electricity shortages and power cuts. Another indicator of quality could be that success is assessed from the points of view of different groups of people (stakeholders), such as domestic customers, businesses, the government, environmentalists, or in different locations within the country, e.g. rural/urban.	
	The challenges which remain could be of any sort, for example:	
	• social: unmet demand, the need for rural electrification • economic: rising unit costs for consumers, financing new installations, ageing plant, e.g. thermal power stations, lack of capacity, continuing power cuts or loadshedding • environmental: degradation from new schemes, pollution and greenhouse gas emissions, depletion of fossil fuels • political: short term plans, poor governance, corruption, supranational policy (e.g. Kyoto Protocol), energy security	
	For a response about more than one country, mark all separately and credit the best or better.	
	Level 3 **12–15** Response offers a convincing assessment of the success of the electrical energy strategy which impresses by its perspective, detail and strength of approach to the topic. It identifies the remaining challenges perceptively, structuring the response well.	
	Level 2 **7–11** Response is of sound quality overall, which may be good in parts, but which remains limited in detail, overall understanding of the electrical energy strategy or the assessment made. Remaining challenges may be embedded or unclear. For a response about one located scheme without context, maximum 8.	
	Level 1 **1–6** Makes one or more simple observations about energy or the electrical energy strategy in a response which is more a description than an assessment. May answer generally or use an example in name only. Remaining challenges are expressed in a basic way or are omitted.	
	For no response, or no creditable response **0**	

Question	Answer	Marks
4(a)(i)	**Fig. 2 shows estimated percentage emissions of sulfur dioxide (SO$_2$) and nitrogen oxides (NO$_x$), in one year, by source, in an MEDC.** **Compare the sources of air pollution shown in Figs. 2A and 2B.** The main sources differ: Main sources for sulfur dioxide are power generation (67%) and industry (13%). Main sources for nitrogen oxides are transport (49%) and power generation. Power generation is 2/3 of total for sulfur dioxide, but 1/3 for nitrogen oxides. The small percentages contributed by other sources are similar, e.g. agriculture is the same for both at 2%, industry is the same, except for 'other' (unspecified) which is 1% for sulfur dioxide but 8% for nitrogen oxides. A full response consists of an element of comparison, addresses the main sources and other sources clearly, with data support. For two separate descriptions or simple comparison only, maximum 2 marks. For a developed response without data support, maximum 3 marks.	**4**
4(a)(ii)	**Use examples to explain <u>three</u> ways in which air pollution has been reduced.** Any ways are valid, but the three ways need to be different. Recent work from candidates has included catalytic converters for motor vehicles, the electrification of railways, 'clean' coal technology, renewables, energy demand reduction, scrubbers on industrial chimneys and restrictions on domestic burning of wood and coal. One of the ways could be the temporary closure of industrial plants, as at the time of the Beijing Olympics, or the relocation of industry improving air quality in cities. Credit each way 2 marks looking for some detail of the method or about what it replaces and an example, named and/or located.	**6**

Question	Answer	Marks
4(b)	**Assess the contribution of mismanagement to the degradation of <u>one</u> degraded environment you have studied.**	15
	This open question allows candidates to use the case study from syllabus 2.4; clearly the content and the direction of the assessment will depend on the nature of each case.	
	The question is focussed on the time period in which the environment became degraded, what the syllabus refers to as 'causes of its degradation' and, maybe, 'problems faced'. The term mismanagement means the process or practice of managing ineptly, incompetently, or dishonestly. In some cases, it is likely to be the lack or absence of management which was contributory, rather than mismanagement. Candidates may in their evaluation link mismanagement instead to attempts to improve the environment. In other cases, mismanagement seen in inexperience, poor planning, unforeseen problems or corrupt practices may have helped to cause the degradation.	
	If more than one environment is included, mark both and credit the highest mark.	
	Level 3 **12–15** Response is structured as an assessment, demonstrating strong conceptual understanding of the role of mismanagement and of other factors in environmental degradation. It argues convincingly, using a detailed example effectively.	
	Level 2 **7–11** Response is of sound quality which may be good in parts but which remains limited in exemplar detail or focus on mismanagement. It may conclude a narrative about environmental degradation with some assessment of it and other factors. At the lower end, mismanagement is largely implicit with little reference to other factors.	
	Level 1 **1–6** Response is basic and may focus weakly on environmental degradation and/or the role of mismanagement. It makes one or more valid points, which may be general, but little or no assessment. Offers notes or fragments.	
	For no response, or no creditable response **0**	

Question	Answer	Marks
5(a)	**Describe global inequalities in trade flows and explain why trade is unequal.** A full description covers flows between MEDCs and LEDCs (or global North and global South) and between named countries or groups of countries, such as OPEC, European Union (EU), NAFTA or the G8. Broadly, exports from MEDCs to LEDCs are greater in value, than from LEDCs to MEDCs. Trade between MEDCs is of much greater value (7 times in 2014) than trade between LEDCs. The G8 countries account for a large proportion of world trade (approximately half). Trade is unequal for a complex and interactive set of reasons, including: • historical legacy of colonialism • development history / level of development • nature of economy, e.g. based on primary products or tertiary sector • resource endowment • demand and supply • market competition • transport • tariffs and their operation • trade agreements and trade blocs, e.g. ASEAN • political stability / instability • governance • other Comprehensive explanations of why trade is unequal are not required. Credit reasoning which draws on a number of dimensions (economic, social, physical, political, historical) to establish the basis for unequal trade. Mark on overall quality, bearing in mind three levels of award and bands of marks, 1–4, 5–7 and 8–10. For a response without examples, maximum 6 marks. For no response or no creditable response, 0.	10

Question	Answer	Marks
5(b)	**Assess the success of attempts to make global trade freer and fairer.**	15
	Attempting to achieve trade which is more free and fair is the work of the World Trade Organisation (WTO). This could provide a full response. Candidates may also use material about Fair Trade.	
	Assessment of the WTO's attempts may refer to the nature of the body and the way it operates, the financial cost to LEDCs of involvement in talks in Geneva and elsewhere, countries being slow to implement agreements, impacts on LEDCs, etc. For example, after the Uruguay Round, UNCTAD estimated that LEDCs would lose between US$163 and US$265 million in export earnings as a result of implementation of Uruguay Round agreements, while paying US$146–292 million more for their imports. Reference may be made to the persistence of some of the powerful structural factors explained in (a).	
	Assessment of Fair Trade initiatives may include the fact that they are small-scale in impact, but growing in number and in scope of products covered (e.g. cocoa, sugar, coffee, tea, cotton, flowers, fruit). These attempts make a difference to producers in terms of empowerment, training and enhanced income. However, many producers in LEDCs find it difficult to meet the standards required to gain and retain Fair Trade certification. Credit the use of examples and any other assessments made.	
	Level 3 **12–15** Response provides a perceptive assessment of attempts to make trade both freer and fairer, showing detailed knowledge of the chosen example(s). It demonstrates strong conceptual understanding of global trade. The response is well structured.	
	Level 2 **7–11** A sound response which lacks full development, but which may be good in places. Takes a broad but shallow approach to the chosen attempt(s) or a rather restricted one, limited in scope or detail, conceptual understanding and/or assessment. For a response based on one attempt or which only considers either free trade or Fair trade, maximum 10 marks.	
	Level 1 **1–6** A descriptive response about trade with little or no assessment. May write generally or struggle to focus on the question set. Note-form and fragmentary responses remain in this level.	
	For no response, or no creditable response **0**	

Question	Answer	Marks
6(a)	**Fig. 3 shows one cartoonist's view of the hidden environmental impacts of cruise tourism.** **With the help of examples, describe and explain the environmental impacts of <u>two</u> different types of tourism.** Tourism types could be mass tourism, ecotourism, heritage tourism, adventure tourism, or may be described more simply, for example, as resort tourism, skiing or enclave resorts. A wise approach would be to choose two types of tourism which are quite different and so avoid repetition. Credit is only for environmental impacts, which may be positive or negative. These may include: • landscape, scenery and 'the view' • features, e.g. rock formations, coral reefs • flora, e.g. removing trees, developing golf courses • fauna, e.g. on breeding and life cycle of animals, fish stocks • water resources, quantity and quality • air quality • wastes and waste management, e.g. litter, sanitation • erosion, e.g. beach, footpath • building accommodation, transport infrastructure • sustainability • noise • other Mark on overall quality, bearing in mind three levels of award and bands of marks, 1–4, 5–7 and 8–10. For a response without examples, maximum 6 marks. For one type of tourism, maximum 6 marks (without any example, maximum 4 marks). For no response or no creditable response, 0.	10

Question	Answer	Marks
6(b)	**Assess the difficulties of managing one or more tourist destinations.**	15
	An open question allowing candidates to use the case study from 3.4 and any other material they choose. Any difficulties may be considered from any stage of the tourist destination's life. Selective use and application of the life cycle model is one possible approach, for example in relation to decline and rejuvenation.	
	Management issues could relate to carrying capacity, profit motivation, market trends, demand and supply, seasonality, threats such as hazards and terrorism, issues of language and culture, media reports, advertising and promotion, reputation, finance and sustainability. The involvement of different stakeholders may cause some difficulties, for example reconciling the needs of local residents and tourists, or meeting the exacting requirements of foreign-owned tour companies.	
	Level 3 **12–15** Response produces a high quality assessment of difficulties, well founded in detailed knowledge of one or more tourist destinations. Impresses by overall perspective and clear identification of the multidimensional nature of the constraints, challenges and/or problems.	
	Level 2 **7–11** Develops a response of sound quality which is good in parts, but which remains limited in perspective or destination detail and/or the assessment of difficulty developed. At the lower end, may consider the topic quite broadly.	
	Level 1 **1–6** Makes one or more basic observations about the tourist destination(s). Response is quite general or descriptive, with little or no assessment of difficulty. Fragmentary and note-form responses remain in this level.	
	For no response, or no creditable response **0**	

Question	Answer	Marks
7(a)(i)	**With the help of examples, describe the primary sector of industry and explain its role in economic development.** The primary sector comprises extractive industries: agriculture, forestry, fishing, and mining and quarrying. Employment varies from 5% or less in MEDCs (stable), 20–35% in NICs (decreasing) to over 50% in LEDCs. The role of the primary sector in economic development is varied, including but not limited to: • feeding and sustaining the population • providing raw materials, e.g. for building, manufacturing • providing capital for investment • providing paid employment • providing export income, e.g. coffee, coal, oil • developing skills, innovation and entrepreneurship Mark on overall quality, bearing in mind three bands of marks, 1–2, 3–4 and 5–6. For a response without examples, maximum 4 marks. For no response or no creditable response, 0.	6
7(a)(ii)	**Give <u>two</u> reasons why the primary sector can be an insecure foundation for economic development.** A number of reasons may be given, including: • competition in global markets / primary product dependency • hazardous events, e.g. climatic disruption of production • resource depletion, e.g. mineral • innovation and change, e.g. synthetic alternatives to cotton, copper • limited potential profit without adding value by processing • influence of powerful players such as WTO, trade blocs, TNCs • other Credit each reason 2 marks to the maximum. If more than two reasons are given, credit the best two.	4

Question	Answer	Marks
7(b)	**Explain the challenges of measuring social and economic inequality and assess the effectiveness of different measures.** An explanation of the challenges does not need to be comprehensive. It may cover some of the following dimensions:	15

	•	social	literacy, privacy, truth/lies, non-respondents, migrants
	•	economic	cost of surveys
	•	physical	accessibility, scale (e.g. megacities, remote regions)
	•	political	governance, government interference in outcomes
	•	statistical	outdated data, gaps, use of estimates or projections, comparability between countries

In assessment, multiple criteria measures (indices), such as HDI, PQLI, MPI and the global happiness index tend to be viewed as better than single criterion measures, such as GNP per person, life expectancy or households with PCs. It is more difficult to quantify characteristics such as wellbeing, happiness or freedom than it is to quantify 'hard' economic inequalities. UNDP replaced HDI with MPI in its reporting in 2010.

Level 3   **12–15**
Produces a high quality explanation of the challenges and an effective assessment, well founded in detailed knowledge of social and economic inequality and its measurement. Impresses by secure overall perspective.

Level 2   **7–11**
Develops a response of sound quality which is good in parts, but which is limited in perspective, explanation of challenges, detail of measures and/or the assessment made. At the lower end may consider the topic broadly.

Level 1   **1–6**
Makes one or more basic observations about inequalities and/or measures. Response is quite general or descriptive, with little or no assessment or a simple statement. Fragmentary and note-form responses remain in this level.

For no response, or no creditable response   **0**

Question	Answer	Marks

8(a)(i)	**Fig. 4 shows changes over time in the relative development of regions in a four region system.**
	
	Compare what happens to the regions in examples 1 and 3 shown in Fig. 4.
	
	In both examples the regions maintain the same positions (order) in t1 and t2.
	         1 mark
	
	In example 1 the disparities decrease between the regions and in example 3 the disparities increase between the regions. 2 marks
	
	For the correct use of the term (regional) convergence and/or divergence
	         1 mark
		4

8(a)(ii)	**Suggest an explanation for the development of the regions shown in example 2 in Fig. 4.** Candidates need to explain the reordering of the regions by region A changing from first position in t1 to third in t2. This could be expressed in terms of cumulative causation, core-periphery, or using Friedman's terms of resource-frontier regions (perhaps C) and downward transition regions (peripheral D). One approach is that A, the historic core area, is overtaken by regions B and C because their advantages, both initial and derived, are greater. The historic core area could be in a poor position, have run out of resources, or relate to the past, such as where the court was or a religious centre. Region D remains peripheral with its position worsening, maybe because of backwash effects, such as outmigration to the other regions or outflow of capital, or as agricultural output declines, for example through lack of innovation or soil erosion. A full explanation makes reference to the changes in positions of all four regions. Examples may be used but are not required as a theoretical approach to regional development may be effective here. Mark on overall quality, bearing in mind three bands of marks, 1–2, 3–4 and 5–6. For no response or no creditable response, 0.	**6**

Question	Answer	Marks
8(b)	**Assess the importance of <u>economic</u> factors in the emergence and growth of one or more newly industrialised countries (NICs).** Economic factors have been – and may remain – key in many NICs. Their role may be seen in economic policy, financing change, infrastructure, cost minimisation, competitiveness, incentives, FDI, etc. Economic factors may operate spatially, e.g. EPZs, SEZs, priority corridors, hubs, etc. Other factors to consider would be social, such as education or a cultural work ethic; physical, such as location, energy or raw materials; political, the significant role of government, or stability; and, maybe, historical. Many of these have links to and connections with economic factors. A range of countries may be taken as NICs, from the Asian Tigers to recent emerging countries such as BRICS. **Level 3** **12–15** Provides an effective assessment of the role of economic factors and other factors in the chosen NIC(s). Judgment is based on clear and detailed evidence, demonstrating sound conceptual understanding. **Level 2** **7–11** Produces a sound response which lacks full development but which may be good in some respects. Takes a broad but shallow, or a more detailed but narrow, approach to the role of economic factors in the chosen NIC(s). May add some assessment to the end of a narrative piece. **Level 1** **1–6** Makes a descriptive response rather than an evaluative one. Writes loosely and maybe generally about factors, not identifying economic factors clearly. Shows little specific knowledge of the chosen NIC(s). Note-form and fragmentary responses remain in this level. For no response, or no creditable response **0**	15