

GEOGRAPHY

Paper 9696/11
Core Geography

General comments

There were many excellent responses to this paper. There were signs of an improvement in responses to the Physical Geography questions, but there is still a tendency to underestimate the detail and precision needed in answering such questions. Answers to the Human Geography questions were generally good, with one or two exceptions. It is still uncommon for all three Physical Geography questions in **Section A** to be answered. In this context it is worth reiterating that in the revised syllabus (2018-2020) there will be no choice available. The data response parts of the Human Geography questions were answered well.

Comments on specific questions

Section A

Question 1

- (a) (i) Almost universally answered correctly.
- (ii) Drawings of the cross-section of the braided channel were highly variable. Many cross-sections seemed to show the islands floating in the water and the vertical exaggeration was too great. Diagrams such as this revealed a lack of understanding of the nature of braided channels. Many cross-sections were not labelled with A and B. A few candidates drew a plan rather than a cross-section.
- (b) Confusion concerning the factors leading to braided channels was evident in many answers. The need for fluctuating discharge and high sediment load with highly erosive channel banks was realised by few candidates. Most answers simply noted that deposition occurred when velocity dropped, which could apply to any type of river channel. A sizeable number of candidates tried to explain braiding with reference to helicoidal flow and point bar formation, which are a characteristic of meandering channels.

Question 2

- (a) (i) Generally sound answers, however many did not note the shape of the curve.
- (ii) Answered correctly by the vast majority.
- (b) The question asked for the atmospheric conditions that could lead to condensation occurring near the ground. Many candidates answered with lengthy explanations of the formation of fog, not really stressing the conditions needed such as clear skies at night and calm conditions for the formation of radiation fog. The need for hygroscopic nuclei was often omitted.

Question 3

- (a) The layering of rocks and the steep rock face were identified by all.
- (b) The features were usually explained with reference to weathering or mass movement processes, but there was a tendency to produce generic answers with little relation to the features shown in the photograph.

Question 4

- (a) (i) Most answers were correct.
 - (ii) Mostly answered correctly.
- (b) An excellent response, many candidates achieved full marks.
- (c) Really excellent answers in general. Very few candidates struggled with this question.

Question 5

- (a) (i) Universally correct.
 - (ii) Almost universally correct.
 - (iii) Many candidates failed to recognise the 'net' part of the question and answered Malaysia instead of Singapore.
- (b) The key element of this question was that it should relate to a single country for both elements. Instead, many candidates answered with respect to different countries. The main emphasis in the answers was on different types of employment. Some candidates were confused by the terms exporter and importer and tried to answer with respect to deliberate policies by the government of the countries.
- (c) Generally well answered.

Question 6

- (a) (i) Full marks were obtained by most candidates.
 - (ii) Also answered well.
- (b) The competition aspect of the question was often treated in a very casual manner and many candidates failed to discuss the type of shops in any meaningful way. However, the bid-rent relationships were discussed by many.

Section B

Question 7

- (a) (i) There were few problems with the responses to this question, except for the imprecise nature in the definitions. For infiltration, it was often not clear that the movement of water was from the surface into the soil and, for stemflow, the fact that precipitation needed to be intercepted before stemflow could occur was often omitted. This reinforces the point made earlier about the imprecision in the definition and discussion of physical geography concepts.
 - (ii) There was much confusion about porosity and permeability with many candidates writing about the porosity of soils rather than permeability. There was also a lack of discussion about types of soils with confusion over the nature of sands and clays. Clay soils are generally very porous but with low permeability.

- (b) There were two components to this question. The influence of vegetation on the shape of storm hydrographs was well discussed, but there was much confusion over the influence of drainage density. Few candidates knew precisely what drainage density was and quite often thought that low drainage density produced a flashier hydrograph. Even those who did suggest that high drainage density produced a flashier hydrograph were unable to explain the reasons for it.
- (c) Most candidates were able to provide a satisfactory analysis. Many candidates took a very broad interpretation of the effect of urbanisation which was perfectly acceptable. Many high marks were awarded.

Question 8

- (a) (i) Two marks for each definition indicates that there needed to be two elements in each definition. For evaporation 'as a result of heat' was often omitted. Definitions of incoming solar radiation were sound, although 'short wave radiation' was often not mentioned.
- (ii) Very few candidates were able to produce a satisfactory diagram.
- (b) There were some very good answers to this question with many candidates basing their answer on the tri-cellular model, and the wind systems associated with it. Both vertical and horizontal transfers were noted but with an emphasis on horizontal transfers, especially if ocean currents were discussed.
- (c) Many candidates struggled with this question although many realised that some components of the urban heat island were relevant. The possible orographic effect of high buildings was often mentioned. The effect of rural landscape posed a dilemma for many candidates with some trying to suggest that rural landscapes tended to be more mountainous. While there was some credit for this idea the analysis was not very convincing. The question asked for an evaluation of the statement, thus factors other than rural and urban landscape characteristics needed discussing.

Question 9

- (a) (i) Most candidates were able to define freeze-thaw but oxidation caused a few problems, with candidates failing to mention that water as well as oxygen was needed for oxidation to take place.
- (ii) Diagrams were generally better than in previous examinations, with the main features of debris flows noted.
- (b) There was a marked dichotomy in the qualities of answers. Many demonstrated little understanding of the role of mass movement in affecting the shape of slopes, but there were some excellent answers dealing with a variety of mass movement types with excellent diagrams.
- (c) Answers were generally very creditable with most candidates recognising that high temperatures were needed as well. Few candidates, however, examined the role of other factors, such as rock type, in influencing chemical weathering. Thus, strong chemical weathering could occur in regions with moderate annual precipitation if the rock was susceptible to such weathering.

Section C

Question 10

- (a) (i) The question asked for an outline of the main components of population structure, thus simply stating age or gender without some elaboration did not achieve full marks.
- (ii) Answered universally well but sometimes lacking in detail.

- (b) Most candidates used the demographic transition model but spent a lot of time describing each stage in great detail with reference to birth and death rates. However, many answers did not translate these ideas into the consequences for population structure. The very best answers produced small sketches of population pyramids for each stage.
- (c) Many candidates simply described the 'China one-child policy' which was a narrow interpretation of the question. The question asked for a discussion of the effects of population change rather than just managing population change. However, quite often the answers concentrated on population numbers rather than other aspects of population change, and were unbalanced in favour of population control rather than considering the possibility of economic growth and the better use of resources to reduce the population pressure. However, answers which discussed the effects of ageing populations, and the management of these effects, were a better interpretation. Limiting and encouraging migration were also considered by many.

Question 11

- (a) (i) Usually answered well.
- (ii) There were many wide ranging answers covering most of the relevant points.
- (b) Answers were generally sound but there was a tendency to concentrate on personal mobility as a result of increasing affluence, such as being able to afford a car rather than more general factors as a result of economic development.
- (c) There were many excellent answers to this question with a reasoned discussion of factors other than social factors. The better answers discussed the problem of separating social from economic factors and that there were often many reasons for migrating thus it was difficult to produce a firm conclusion.

Question 12

- (a) There were many sensible answers with most candidates being able to offer some reasoned differences between rural and urban settlements.
- (b) Counter-urbanisation was used as the main reason why rural settlements were growing and was substantiated with relevant examples. Analysis of declining rural settlements was less convincing with few specific examples.
- (c) Much depended on the specific rural area chosen. Some examples were so limited in issues discussed that answers tended to be superficial. Also, although there were many detailed examples, the geography of the rural area was sometimes lacking in detail. Thus, very rarely was the area placed in a wider geographical concept. Some answers were essentially generic with little reference to a specific rural area.

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Paper 9696/12
Core Geography

General Comments

The examination produced many answers of good quality, and candidates are to be congratulated on their enthusiasm and understanding of the processes of both physical and human geography. Obviously, answers were wide ranging in terms of approach and effectiveness, but the progress of recent years has been maintained.

Candidates continue to be well prepared for this examination. Their approach is logical and appropriate, and the detail of many of their answers is very commendable. There were few rubric errors, and the standard of written presentation was usually reassuring. Diagrams continue to be of variable quality. The diagrams for **Question 7(b)** were frequently excellent, being both clear and detailed, and reflecting effective teaching and learning. However, those offered in response to **Question 9(b)**, illustrating divergent plate boundaries, were less convincing, and of variable quality.

A wide range of questions were attempted. In **Section A**, the majority of candidates chose to answer three Human Geography questions, as has been the pattern in recent years. Once again Atmosphere and Weather proved unpopular. In this context it is worth reiterating that in the revised syllabus (2018-2020) there will be no choice available.

Candidates clearly understand the demands of many command words, and progress has been made in this respect. However, occasionally there remains a lack of distinction between 'describe' and 'explain', and this can create unbalanced or irrelevant answers. Time and effort can be wasted in detailed explanation, when only description is required. Both 'trend' and 'pattern' are also terms that continue to cause difficulty. Detailed changes over time, or from place to place, can obscure general trends or patterns, although candidates are now adept at identifying anomalies.

There are always opportunities to enhance answers with appropriate diagrams and examples. Water circulation within a drainage basin is one such example, and the diagrams produced were frequently of excellent quality. Other opportunities to illustrate answers were less effective, although candidates do now include convection currents in plate boundary diagrams. Some exemplar material used is detailed and of high quality, such as the 'one-child policy' in China. However, details of 'place' are less assured, as illustrated by the attempts to explain the growth of a world city in **Question 12(b)**.

Comments on specific questions

Section A

Question 1

- (a) Most candidates could identify a variety of relevant features, although some did also include vegetation, which is not appropriate. The question requires description, but many candidates simply listed the features they had identified. Some detail is required to reach higher marks. Description of the waterfall, for example, could include the multiple channels, the scale of the back wall, the gullies, and evidence of differential retreat.
- (b) Reference was made to a number of erosion processes, including cavitation; but detail of those processes was often limited. On the other hand, many candidates clearly understood how the features might develop over time, and the implications of headward erosion.

Question 2

- (a) Most candidates effectively discussed the three key circulation cells, and were able to identify them.
- (b) The better answers displayed a clear understanding of seasonal variations in temperature, but found difficulty in translating this into changes in atmospheric circulation. The Coriolis effect tended to complicate explanations, and increase confusion, but some candidates convincingly included reference to monsoon climates and jet streams.

Question 3

- (a)(i)(ii) Answers were generally convincing, and of good quality. Most correctly identified the type of mass movement, and were able to identify evidence that helped to explain why it had recently occurred. The volume of debris, and colour variations, were effectively discussed. Some candidates even identified the warning cones on the cliff top.
- (b) Weaker answers simply discussed weathering in general terms, but the more convincing answers were focused on the photograph provided, and the concept of rockfall. Many identified freeze thaw action and human causes, but in a rather generic and unspecific way.

Question 4

- (a)(i)(ii) Well answered.
- (b) Once again, convincing answers. Many identified the irregular time frames, and that continents contain a variety of countries at different stages of development.
- (c) Many detailed and convincing answers. A wide variety of reasons offered, but commonly with an emphasis on health and medical technology.

Question 5

- (a) Candidates attempted to use the data provided, but too often listed changes from year to year, without identifying general trends.
- (b) Not all candidates were clear about the term 'remittance', but the majority gave effective answers.
- (c) Some candidates confused 'source areas' with destinations, but most identified a variety of social and economic links to give convincing answers.

Question 6

- (a)(i)(ii) Candidates used data effectively, and compared the general trends of both CBD and internet. However, additional variations within the general trends were less convincing, and so many candidates scored 2 marks rather than 3. **Question (a)(ii)** was well answered, and a variety of ideas were offered.

- (b) Many answers focused on accessibility, but without explanatory detail. Population density also lacked detail, with better answers discussing entertainment, tourism, consumer wealth, and range of goods.

Section B

Question 7

- (a)(i)(ii) Antecedent moisture was not understood by a number of candidates, and porosity confused with permeability. Changes in water table were associated with precipitation, but human abstraction neglected.
- (b) There were many excellent diagrams produced, and many high marks were awarded.
- (c) Candidates displayed a good general knowledge of flooding, but answers often lacked focus on prediction and prevention. Flood recurrence interval is still not clearly understood, and hard and soft engineering methods of prevention lacked convincing exemplification.

Question 8

- (a)(i)(ii) Most displayed sound understanding of short and long wave radiation in (a)(i). Candidates understood the general concept of temperature inversion in (a)(ii), but answers lacked development and/or effective diagrams.
- (b) There were many effective answers, discussing relative air pressures, and specific heat capacities. At the other extreme, directional information of land and sea breezes was incorrect, and some candidates drifted into global air circulation.
- (c) Too many answers explained the causes of global warming in inappropriate detail. However, there were also some very convincing answers, covering a range of climatic impacts, and discussing the effects of climatic change in terms of species extinction, human displacement etc.

Question 9

- (a)(i)(ii) Most understood that organic action involved vegetation, and that chelation involved acidic reactions, but there was little development beyond that. Acid rain is not clearly understood. Many associate it with the release of CO₂, rather than pollution from sulphur dioxide and nitrous oxide, dissolving in rainwater to produce sulphuric and nitric acids.
- (b) Candidates understood 'divergent' and the convection currents involved. To their credit, many discussed both sea floor spreading in the Atlantic Ocean, and rift valley development in east Africa. Effective diagrams should enhance answers, but the quality of such diagrams was variable. Island Arcs were frequently, and incorrectly, discussed as relevant features of divergence.
- (c) Some excellent answers, not only accurately explained how extreme temperatures caused physical weathering, but also considered other factors such as temperature fluctuations, precipitation, and pressure release. Weaker responses gave weathering details, but without evaluation in terms of the question set.

Section C

Question 10

- (a) Well answered by most candidates, with many successfully discussing a wide variety of causes and using appropriate case studies.
- (b) Some insightful answers explained a range of consequences, often identifying how factors interacted, such as the effects of disease on productivity. Some excellent case studies supported many answers.

- (c) Good answers effectively explained innovations in their widest sense, and went beyond HYV and Green Revolution to consider more recent trends such as GM crops and Hydroponics. It was the candidates' ability to compare these innovations to other factors, such as birth control, fair distribution and conflict reduction, which enabled answers to access the higher marks. There were some very detailed and thoughtful answers.

Question 11

- (a)(i)(ii) Many candidates were confused by the term 'intra-urban', and gave definitions of 'inter-urban'. This had consequences in (a)(ii), although some points were generic, and of some value. However, it was clear that rural-urban migration could gain little credit.
- (b) Once again, some candidates drifted into rural-urban migration, but there were some excellent answers that identified clear links between development and volumes of movement within urban areas.
- (c) Some interesting answers from different countries, where the effects of urban-rural migration are very different. Many answers considered both positive and negative effects, and attempted assessment within that framework. It was the lack of examples that prevented many well-argued responses from accessing even higher marks.

Question 12

- (a)(i)(ii) Many failed to pass beyond a general understanding of 'importance', which in turn weakened answers to (a)(ii).
- (b) Few candidates displayed detailed knowledge of specific cities, and answered in generic terms. Consequently, limited marks were awarded.
- (c) Many understood the role of migration in the urbanisation process, but not natural increase. The different processes operating in MEDCs as opposed to LEDCs, such as counter-urbanisation, were often identified by candidates, but few seemed aware of the current urban growth in some MEDC cities. Case study detail was limited.

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Paper 9696/13
Core Geography

General comments

The number of candidates who took this component is sufficiently small that generalisation is difficult. However, it is possible to make a number of points. There were more marks at the lower end but excellent marks were achieved by a few candidates. The dichotomy between responses to the Physical Geography and Human Geography questions continues to be a concern. The imprecision in the use and understanding of Physical Geography terms and concepts noted in previous reports still continues. It is still uncommon for all three Physical Geography questions in **Section A** to be answered. In this context it is worth reiterating that in the revised syllabus (2018-2020) there will be no choice available. The data response parts of the Human Geography questions were handled well.

Comments on specific questions

Section A

Question 1

- (a) This question was answered quite well. Most candidates were able to describe many of the differences between the hydrographs, although sometimes the detail was incomplete with respect to one or other of these differences.
- (b) There seems to be some confusion concerning the terms permeable and impermeable, although most answers were able to discuss the role of impermeability in increasing surface runoff. However, answers often failed to identify reasons for the lower peak discharge and longer lag time of the permeable drainage basin.

Question 2

- (a) (i) Most candidates were able to identify the condition as instability.
- (ii) Answered well by most candidates.
- (iii) Most answers covered the main points although descriptions were sometimes incomplete.
- (b) The fact that heat is generated when condensation occurs, thus reducing the rate of temperature drop in saturated air, was mentioned by very few candidates.

Question 3

- (a) There was a distinct improvement in the standard of the diagrams and most diagrams were labelled with relevant and accurate features.
- (b) Answers explaining mass movements still tend to be descriptive rather than explanatory. Thus, simply mentioning undercutting as a cause is not really enough if the manner in which undercutting leads to an increase in stresses on the slope is not examined. Similarly with rainfall amounts affecting mass movement. There needs to be a discussion about the lubrication of slip planes for landslides, or the increase in pore water pressure leading to a reduction of shear strength for mud/debris flows.

Question 4

- (a) (i) Answers were generally sound but the non-linear nature of the relationship was often missed.
- (ii) Answered well and the three main points in the mark scheme were covered in all of the answers.
- (b) Most candidates recognised that LEDCs were starting from a lower life expectancy and therefore that the chances of a rapid rise with increased health facilities and improved sanitation, diet and affluence was likely. There were many good answers.

Question 5

- (a) (i) Almost universally correct.
- (ii) Generally correct with the workings shown.
- (b) The key element in the question is that it should relate to a single country for both origin and destination. The main emphasis in the answers was on different types of employment. Other reasons, such as different ethnicities, and consideration of different push and pull factors, were little mentioned.
- (c) In general, there was an excellent response with extremely detailed analysis.

Question 6

- (a) The diagrams were often very impressive, some of them in three dimensions, with considerable accurate detail. Quite often maximum marks were obtained.
- (b) Many candidates seemed to think that there is a lot of industry in the CBD of cities and this is why there is limited housing. However, cost, congestion and noise and light pollution were mentioned by many candidates.

Section B

Question 7

- (a) (i) There were few problems with this question except confusion between throughfall and throughflow and sometimes inaccurate definition of stemflow, often forgetting that the precipitation needed to be intercepted before stemflow could occur.
- (ii) Most candidates were able to describe straight, meandering and braided channels.
- (b) Diagrams were highly variable, with many struggling to identify catchment stores and flows. Explanation of how vegetation affects these stores and flows was generally sound, although often lacking detail and completeness with some stores and flows ignored. Many answers concentrated on how a lack of vegetation influences flows and stores. Very few saw it as an opportunity to discuss different types of vegetation such as deciduous versus coniferous or trees and agricultural crops.
- (c) Most candidates were able to provide a satisfactory analysis of this question. It is encouraging to note that the concept of recurrence intervals was understood by most and there were many good assessments of the question.

Question 8

There were too few answers to make comment appropriate.

Question 9

- (a) (i) Most candidates were able to define exfoliation but oxidation caused a few problems, with candidates failing to mention that water as well as oxygen was needed for oxidation to take place.
- (ii) This was answered mostly very competently but there was a tendency to forget that frequent freeze-thaw cycles were needed for the process to be effective.
- (b) This was a question where most candidates were able to obtain reasonable marks. However, there was a tendency to explain how the processes of weathering were affected by climate and ignore the effect of climate on rate of weathering. There was sometimes confusion between physical and chemical processes.
- (c) Subduction is a very important process in the formation of tectonic landforms but is really only responsible for ocean trenches and the melting of the oceanic plate and the creation of magma which might erupt on the surface as volcanoes. It is the movement and nature of the plates that are crucial in the formation of other landforms such as fold mountains. This last point was often omitted thus the assessment of the statement tended to be somewhat partial.

Section C

Question 10

- (a) (i) Most candidates were able to outline the characteristics of Stage 3 of the demographic transition model.
- (ii) Answered universally well.
- (b) There were many good answers to this question which demonstrated that candidates were very familiar with the model.
- (c) There were many encouraging responses to this question. However, quite often the answers concentrated on population numbers rather than other aspects of population change and were unbalanced in favour of some form of population control rather than considering the possibility of economic growth and the better use of resources to reduce the population pressure. Limiting and encouraging migration were also considered by many.

Question 11

- (a) (i) Usually answered well.
- (ii) There were many wide ranging answers covering most of the relevant points.
- (b) The general nature of pull factors was well understood and most candidates were able to discuss why these factors might be inaccurate or exaggerated.
- (c) The better candidates argued that international migration was governed by a combination of push and pull factors. Thus, it was often difficult to conclude whether push was more important than pull. The general argument was that only with forced migration were push factors more important, which was a very sensible position to take. Thus, many of the answers were well considered.

Question 12

There were few answers to this question and there was a dichotomy of response between those answers which provided very detailed analysis of one named shanty town and those which were very generic, with statements that could apply to any shanty town or squatter settlement.

GEOGRAPHY

<p>Paper 9696/21 Advanced Physical Options</p>
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General comments

The response of candidates to the paper was generally sound, although there were very good answers to some of the questions. Most of the questions had several components and, as noted in previous years, many candidates concentrated on one element to the detriment of others. This prevented marks at the upper end being awarded. Diagrams and sketches could often be improved on. Many of the responses would have benefited by a few brief sentences outlining the issues that were being discussed, especially with respect to **parts (b)** in the questions. This outline was generally lacking, which meant the responses were unstructured and the logic of the discussion was difficult to follow. Quite often a conclusion was provided in the first few sentences rather than being a justification at the end of a reasoned argument.

Comments on specific questions

Tropical Environments

These questions caused problems to many of the candidates, especially knowledge and understanding of tropical climates and the controls on those climates. There were surprisingly weak responses to **Question 2 (a)**. Answers with respect to granite landforms are usually answered well, but this was not the case this year.

Question 1

- (a) Many candidates simply repeated the information provided in the Figure, adding very little extra information or discussion. This meant that only a limited number of marks could be awarded. A reasoned description of plant succession was required; referring to the information in the Figure to substantiate what was being described.
- (b) Little understanding was shown of the nature of air masses or the specific air masses that affect the characteristics of tropical climates. Some candidates did mention and concentrate on the Inter Tropical Convergence Zone but with little reference to air masses.

Question 2

- (a) As noted above, the responses to this question were very weak. Most candidates were able to mention some granite landforms, such as bornhardts and tors, but were unable to provide a reasoned analysis as to how those landforms had formed. With one or two exceptions, diagrams were poor quality. Some candidates were able to describe the process of hydrolysis and the decomposition of granite and the formation of kaolin, but were unable to combine this with the relevant characteristics of the rock structure, especially jointing, in influencing the development of the landforms.
- (b) The best way of answering this question would have been to start with a description of the climatic characteristics that needed explaining, but this was rarely the case. Most answers commenced with a discussion of ocean currents. It was therefore difficult to relate the ocean currents to climatic characteristics that had been inadequately discussed. The main demand of the question was the assessment. Many candidates seemed reluctant to argue that ocean currents were not the most important factor in determining the nature of tropical climates, but better answers did.

Coastal Environments

Question 3

- (a) Answers to this question were very good. Many candidates were able to describe how waves were generated, sometimes in great detail. The majority of candidates were able to describe the breaking waves in terms of surging, spilling and plunging, therefore moving away from the somewhat confusing terms constructive and destructive. However, there is still confusion over the creation of destructive/storm waves. These are usually generated by comparatively local, intense storms and not by a long fetch. Most candidates realised that surging waves required a gentle beach and plunging waves required a steeper beach profile to act efficiently. This automatically leads to the conclusion that surging waves build up the beach and plunging waves decrease the angle of the beach.
- (b) Most candidates were able to explain the main processes of marine erosion, although the detail was often lacking. Mass movement processes were less well explained apart from brief statements that shear stresses overcome shear strength. There was little understanding shown as to why this might be so. Many candidates saw the second part of the question as a reason to begin a description of cliff profiles whether or not they were relevant to the question. The key demand was in the statement 'such as the one shown in Photograph A'. Therefore, better answers concentrated on explaining cliff profiles such as that shown in the photograph. Detailed description of caves, stacks and stumps was not really relevant.

Question 4

- (a) Responses to this question were poor. Few candidates knew the nature of and differences between offshore bars, barrier beaches and barrier islands. Longshore drift was often used to explain all three features. Offshore bars were sometimes shown as attached to the mainland. Of the three forms, offshore bars were best explained. Few candidates were able to explain the movement onshore of sediment and bars to create barrier beaches. Diagrams were generally very poor.
- (b) Comments made in previous years are still relevant this year. The syllabus requires the study of a stretch or stretches of coastline. Many answers were essentially generic and unrelated to a specific coastline. If a coastline was stated, it was often just a general location and the answer seemed unrelated to the stretch of coastline or could have related to any stretch of coastline. Even when it was clear that a specific coastline was being examined, the geographical detail was often limited and quite often erroneous. Also, there was often little attempt to assess why that coastline needed managing. However, there were some excellent answers to this question with detailed description and excellent assessment. The Holderness Coast of eastern England was a popular choice but there were some good Spanish examples. However, there were answers where completely inappropriate stretches of coastline were chosen, such as the entire east coast of North America, or coasts where the range of problems was limited.

Hazardous Environments

Question 5

- (a) This question received a generally good response but the analysis tended to be somewhat limited. Few candidates recognised the significance of 'explosive' volcanic eruptions. This should have directed attention to this type of volcanic activity. Thus, description of lava outpouring from Hawaiian eruptions was not appropriate. There was a tendency to mention volcanic products without describing them in some detail. This applied especially to the discussion of pyroclastic flows. There tended to be a blanket description of the effects of volcanic eruptions whether they applied to the evidence in the photograph or not.
- (b) Most candidates were able to describe and explain some of the hazards associated with earthquakes. Surprisingly, the shaking of the ground and its effects on buildings and infrastructure were often ignored. Analysis of secondary hazards tended to dominate the discussion. Assessment of prediction was usually satisfactory but the range of procedures used to attempt to predict earthquakes was often quite basic. However, the response was generally sound and there were many excellent answers.

Question 6

- (a) The question asked for a description of the characteristics of tropical storms. Most candidates saw it as an opportunity to explain their formation. In doing so, many of the characteristics were noted, but the detail was often lost amongst information that was not especially relevant. Monitoring tropical storms was well answered. Overall, there were some very good answers and very few at the extreme lower end of the mark range.
- (b) There was a range of hazardous environments chosen for discussion but areas subject to earthquakes were the most popular chosen for analysis, such as Japan or Haiti. Answers were generally satisfactory, although there was a tendency to downplay the first part of the question by simply noting the hazards without a detailed discussion. The emphasis tended to be on management – whether that management was sustainable was rarely assessed.

Arid and Semi-arid Environments

Question 7

- (a) There was a good response to this question with some excellent and very impressive answers. Not only were the answers very thorough in a generic sense, but the discussion was substantiated with a wide and accurate range of animals from insects to reptiles, birds and mammals. However, there were a few candidates who wrote about plant adaptation. Detail in some answers was very limited.
- (b) The response to this question was mixed. Some candidates simply described the Figure and were unable to add anything more to the discussion. But there were some answers that demonstrated a thorough understanding of the nutrient cycling with a detailed analysis of the nature of desert soils. Discussion of arid environments and biomass productivity was answered quite well. Some candidates spent too much time on desertification, rather than concentrating on the nature of arid environments and biomass productivity.

Question 8

- (a) Alluvial fans were understood in a very general way but with limited detail. However, knowledge and understanding of pediments was poor. Many candidates thought they were depositional features. This question was an instance where diagrams could have been used to enhance an answer. However, when used, they were often inaccurate and simplistic.
- (b) Few candidates understood what thermal fracture was, with many arguing that it was freeze-thaw weathering, and recognised the distinction between thermal fracture and exfoliation. Block and granular disintegration were noted by few candidates. Discussion of chemical weathering was very indiscriminating. Most candidates saw it as an opportunity to describe every chemical weathering process that they knew. Salt crystallisation was often described but this is a physical process and not a chemical process (although chemical salts are involved).

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Paper 9696/22
Advanced Physical Geography Options

General comments

The overall quality of responses to this paper was sound. Many candidates displayed a good knowledge of physical processes. They would benefit further from demonstrating a more secure understanding of why these processes lead to the development and formation of physical features within specific environments.

The use of more named examples in order to illustrate ideas would also be beneficial. A more detailed use of appropriate case studies, integrated into the response, would gain more credit and add greater quality to the answer.

Many candidates made use of diagrams and sketch maps, this should be encouraged further in order to increase clarity and geographical perspective. Accurate labelling and effective annotation would then provide the basis for a strong response.

The paper provided a variety of stimulus material. It is important that candidates do not merely repeat or describe the maps, diagrams, graphs and photographic images but interpret and elaborate on them in order to develop their ideas.

Comments on specific questions

Tropical Environments

Question 1

- (a) Most candidates successfully described the main characteristics of the structure of savanna vegetation both vertically and spatially. Greater reference to specific species of vegetation and their xerophytic and pyrophytic adaptations would have improved some answers. There was a wide range in the quality of explanation of the savanna nutrient cycle. Some merely discussed a generalised and non-specific nutrient cycle, whereas the better responses explained the relative store sizes and the transfers within the savanna nutrient cycle. The best responses included and accurately labelled a Gersmehl diagram together with a thorough explanation of the stores and transfers within it.
- (b) Most successful responses identified the correct air masses operating in tropical environments and their relative importance. Many candidates were aware of the ICTZ and its significance in the formation of a humid tropical climate. However, a significant proportion of candidates tended to simply describe the characteristics of the Trade Winds without explaining their relative significance. The stronger answers concentrated on the movement of the ITCZ and recognised some other significant factors in the formation of a humid tropical environment.

Question 2

- (a) This question focused on the main characteristics of a soil profile developed in a tropical environment, along with the associated plant community. Basic responses tended to include a very generalised diagram soil profile with limited detail concerning the characteristics of the different soil horizons. However, the clearer answers not only used detailed and accurate annotations on their soil profiles but also linked it to the plant community associated with it. The very best answers included specific and accurate detail relating to their chosen tropical ecosystem.

- (b) Most candidates had a reasonable knowledge of the problems of sustainable management in their chosen tropical ecosystem. The weaker answers frequently offered only very generalised solutions with little reference to specific geographical areas. However, the better responses provided a wide range of significant problems and integrated a detailed analysis of possible solutions. Some candidates tended to offer a rather basic description of management ideas but the strongest responses used a range of case studies and examples to evaluate the levels of success.

Coastal Environments

Question 3

- (a) This was a popular question to choose but a significant proportion of the answers gained low marks because they did not apply their knowledge to *cliff profiles*. When discussing the relevance of rock types and their relative resistance to weathering and erosion, many candidates applied this to the development of headlands and bays. Sadly, many responses then discussed the formation of natural arches, stacks and stumps and made limited or no reference to cliff profiles. The better responses used clearly annotated cross sections to indicate how rock type and structure produces a range of different cliff profiles. Very few candidates tackled the issue of erosional history and missed the opportunity to consider the significance of changes in sea level.
- (b) Many candidates struggled to address this question correctly. Some merely focused on Fig.2 and largely described its various elements, adding little detail or explanation of the threats to coral reefs. Rather, many simply described the conditions required to sustain healthy coral growth. The stronger responses used specific management strategies used in different locations to minimise the threats to coral reefs. This allowed for a clearer assessment of the relative success of the schemes.

Question 4

- (a) This was a popular question with most candidates referring to the wavelength, height, frequency and formation of constructive and destructive waves. There was a pleasing level of accuracy demonstrated. However, the effects of waves on beach profiles proved more demanding with some confusion over which type of wave produces gentle or steep beaches. Sadly, a significant proportion of responses included an explanation of longshore drift and failed to focus on the specific profile of the beach.
- (b) This question offered the candidates considerable scope to demonstrate their knowledge and understanding of coastal landforms and processes. The stronger responses tended to examine a range of human activities and management strategies within a specific coastal location. This approach tended to assist in the assessment of the impact on landforms, often depositional in nature. Some candidates tended to be too generalised when discussing human activities and the impact on coastal landforms was sometimes too simplistic.

Hazardous Environments

Question 5

- (a) The vast majority of candidates could describe some aspects of the global distribution of tropical storms. The better responses included specific geographical locations to illustrate the global pattern. Most answers included reasonably secure descriptions of the conditions required for the generation of tropical cyclones, however only the more thorough responses included detail as to why and how these conditions occurred in specific global locations.
- (b) There were many good responses to this question. Most candidates were able to use diagrams to assist in the description of the main characteristics of the plate margins, especially the movement of the tectonic plates. Subsequently, most candidates effectively described several hazards associated with both convergent and conservative plate margins. However, only the better responses then developed the significant lack of volcanic activity at conservative margins. Many candidates considered both physical and human hazards, with the best responses considering the importance of the geographical location of the plate margin.

Question 6

- (a) This was a very popular question although correctly not all candidates correctly interpreted Fig. 3. A number of candidates believed Valparaiso Santiago to be one settlement, whilst others considered Santiago to be on the coast. However, most responses correctly identified the pattern of relative risk being related to the proximity of the epicentre. The stronger answers identified and explained the level of risk to the offshore Pacific islands.
- (b) Most candidates were familiar with the various techniques used in the monitoring of volcanoes and some included information on how specific volcanoes are studied today. Many tended to list or describe the techniques but a pleasing proportion of responses included an explanation of how the techniques were used to assess the likelihood of an imminent eruption. Assessments of the reliability of volcanic predictions varied considerably. Although some answers were rather basic in nature, the best responses carefully chose evidence from specific volcanic events to illustrate and elaborate on their argument.

Arid and Semi-arid Environments

Question 7

- (a) Most candidates could clearly identify and describe the distribution of hot arid environments with many responses including accurate and specific geographical locations. Although there was a tendency to describe the conditions leading to aridity a good proportion of students were able to give reasons for the establishing of these various conditions. This included clear reference to high pressure systems, mountain ranges, continental interiors and cold ocean currents.
- (b) Photograph A gave the candidates an opportunity to show their understanding of desert landforms and the processes operating in arid environments. Many responses recognised the arroyo or wadi and the significance of episodic rainfall in the formation of such landforms. More thorough answers included consideration of alluvial fans and an assessment of other significant processes present in the formation of desert landforms.

Question 8

- (a) Most responses included reference to the reasons for a lack of organic content in arid and semi-arid soils. This allowed for development through the discussion of water deficiency and mineral content. The better responses integrated the explanations with reference to specific aridosols such as solonchaks and solonetz.
- (b) Most candidates acknowledged the difficulties of low annual rainfall totals and an unreliable water supply when attempting to establish sustainable management in arid or semi-arid environments. The relative strength of responses often related to the use of specific schemes to illustrate the judgements made. Many made reference to semi-arid areas where irrigation, paddocking, eco-tourism and renewable energy had been developed. The evaluation was often rather simplistic and might have made more of the difficulties associated with the physical and human environment.

GEOGRAPHY

Paper 9696/23
Advanced Physical Geography Options

General comments

The overall quality of responses to this paper was sound. Many candidates displayed a good knowledge of physical processes. They would benefit further from demonstrating a more secure understanding of why these processes lead to the development and formation of physical features within specific environments.

The use of more named examples in order to illustrate ideas would also be beneficial. A more detailed use of appropriate case studies, integrated into the response, would gain more credit and add greater quality to the answer.

Many candidates made use of diagrams and sketch maps, this should be encouraged further in order to increase clarity and geographical perspective. Accurate labelling and effective annotation would then provide the basis for a strong response.

The paper provided a variety of stimulus material. It is important that candidates do not merely repeat or describe the maps, diagrams, graphs and photographic images but interpret and elaborate on them in order to develop their ideas.

Comments on specific questions

Tropical Environments

Question 1

- (a) Most candidates successfully described the main characteristics of the structure of savanna vegetation both vertically and spatially. Greater reference to specific species of vegetation and their xerophytic and pyrophytic adaptations would have improved some answers. There was a wide range in the quality of explanation of the savanna nutrient cycle. Some merely discussed a generalised and non-specific nutrient cycle, whereas the better responses explained the relative store sizes and the transfers within the savanna nutrient cycle. The best responses included and accurately labelled a Gersmehl diagram together with a thorough explanation of the stores and transfers within it.
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GEOGRAPHY

<p>Paper 9696/31 Advanced Human Options</p>

Key messages

- Questions require the selection of relevant material and its application to answer the actual question set in order to fulfil the Assessment Objectives. A small proportion of marks is for Knowledge (AO1).
- Detail from examples and/or case studies should be integrated into the responses. General responses in **parts (a)** have a maximum of 6/10 and in **(b)** generality is a feature of Level 1 (1–6/15).
- Mark allocations give an indication of the time best spent on each part of the question.

General comments

Many satisfactory, many good and some exceptional quality responses were seen. The full spectrum of achievement included brief, fragmentary and incomplete scripts and a small number of rubric errors. Many candidates showed sound Knowledge (AO1), secure Understanding (AO2) some with the ability to apply it, satisfactory Skills and enquiry (AO3) and the ability to provide Evaluation (AO4). Elements of differentiation between performance included addressing each part of the question, the use of detail from examples and/or case studies, and, in **parts (b)**, argument and the approach to evaluation or assessment. The best structured the whole essay in **(b)** as an assessment (a Level 3 response); some provided assessment in the introduction and the conclusion (a Level 2 response); some omitted it or made a simple statement (Level 1).

Skills in resource reading and interpretation are improving and no resource in the Insert caused notable difficulties. Some candidates tried mistakenly to explain the third row of Table 1 in **Question (a)(ii)** in demographic terms rather than in relation to agricultural productivity. Many responses to **Question 5(a)(i)** and **Question 8(a)(i)** would have been enhanced by accurate data support. Any teacher preparing candidates for the new 9696 syllabus from 2018 is reminded that each Option will have a compulsory resource-based question, as well as a choice of one of two essays.

Candidate performance could be enhanced by learning some examination techniques. Time could be well used in choosing carefully which question to answer by reading both in full and thinking about and planning the responses before starting. Many scripts had one or more paragraphs crossed out and in a few cases this applied to whole pages, with the consequent reduction in time available. As **parts (b)** carry 15 marks they should take more time and be longer than the responses to **parts (a)** 10 marks.

Comments on specific questions

Production, location and change

Question 1

- (a) (i)** The marks were awarded for description of the changes in the top two rows of the table only, with some processing of the data. This could be absolute (million hectares' increase) or relative (percentage increase). Few candidates achieved the third mark by observing that the increase in irrigated land is less overall and/or a much greater proportion than the increase in area of arable land.

- (ii) As the command was 'Suggest reasons ...', unlike in (i) there was no credit for data description. The key idea was agricultural in that the area needed to feed one person decreased because of the increase in productivity per hectare through intensification. How this has been achieved in terms of HYV seeds, crop breeding, invention of improved chemical (inorganic) fertilisers, pesticides and herbicides, mechanisation and irrigation was expected. Other factors such as training farmers, the change from subsistence to commercial production and better weather forecasting were also creditable. Examples such as the Green Revolution in India and agricultural extension activities in the home country could be used to support and develop the response. Some candidates mistakenly attempted a demographic explanation of the decrease in arable area needed to feed one person based on the increase in world population and the limited amount of productive land available which, combined with the influence of climate change, was seen as leading to hunger and famine. This was a misconception and not the intention of the question.
- (b) Almost all candidates had a valid case study of agricultural change in one country and understood what is meant by physical factors (climate, soils, environmental hazards, pests and diseases). The best used that case study in a flexible way to address the actual question set, selecting material and applying and directing it effectively with a focus on the need for agricultural change. Other responses were descriptive or narrative of the whole sequence of change from need or causes, through what happened to the results and consequences, much of which could not be credited. Some provided an assessment of the success of the agricultural change rather than the assessment required here of the extent to which the need for change is caused by physical factors. One good approach to answering was to establish the relevant physical factors from increasing drought induced by climate change to problems with pests and diseases, and how each made agricultural change necessary, before considering other factors. These could be economic, such as loss of export markets or growing competition; social, such as traditionalism in rural communities or migration losses from disaffected farmers struggling for survival; or political, notably civil unrest and reforming governments. Another good approach, if one factor was of overriding importance in the chosen case study regardless of whether it was physical or not, was to focus on that factor first, before widening the essay in order to make an assessment.

Question 2

Most responses to (a) would have been improved by better understanding of the concept of capital and to (b) with specific detailed knowledge of industrial policy.

- (a) Capital means money or finance. It can be in two forms: fixed capital which is fixed in land, buildings, machines and other equipment and vehicles; and liquid capital as cash or flows of money to finance the day-to-day running of the business, pay employees and suppliers, etc. This knowledge needed to be applied to the idea of location, for example setting up a factory, relocating a factory or expanding one. It might include a company's capital and financial incentives available from the government for example to locate in an industrial estate or export processing zone (EPZ) or in a peripheral region as part of regional policy. Some candidates referred to the profit maximising and cost minimising behaviours of TNCs. A few gave examples of the financial packages available to attract manufacturing which could be credited, although examples were not required by the wording of the question.
- (b) Candidates who deconstructed the part-question saw that they needed to write both about character and location of manufacturing and related service industry in the chosen country, and provide an assessment of the extent to which changes in manufacturing and related services result from its industrial policy. Most described and explained changes in the country's industries, losing the element of assessment. Some had detailed and reasonably up-to-date knowledge of policy, for example in a 5-year plan or named acts and initiatives and linked changes to these effectively. In some countries other factors were operative and significant, for example in terms of TNCs seeking to penetrate new markets or access a trade bloc. Some linked changes in character to economic development and moving from manufacturing based on raw material processing, through import substitution to specialist manufactures.

Environmental management

Question 3

- (a) (i) Knowledge and understanding of the production and use of biofuels for energy is improving. A full response comprised three or more advantages. Many responses would have been enhanced by explanation as some simply stated the advantages 'it is cheap ... it is environmentally-friendly'. It was more creditable to explain how growing biofuels is cheap, for example in costs per unit of energy, or compared to the costs of thermal power based on the combustion of coal. Likewise, how it is that biofuels are environmentally-friendly could both be explained by their own green credentials, for example being carbon neutral, and by the way that they can replace polluting fossil fuels or be combined with them in the case of ethanol with petrol for vehicles. Advantages of biofuels for farmers and for rural areas were also creditable, such as providing an additional income stream or using otherwise marginal land.
- (ii) Candidates could choose any one renewable source of energy, the disadvantages of which were known by all and explained well by many. Some candidates did not focus on this demand and wasted some time by rehearsing the advantages first to no credit. The best explanations of disadvantages were both spatial, such as locational requirements, and temporal, such as the unreliability of wind power and solar power 24/7. Other disadvantages included cost per unit of energy, environmental impact and, for some, their relatively modest capacity. The safety and security issues of nuclear power in the light of global terrorism and disasters such as Fukushima 2011 and Chernobyl 1986 were explained convincingly. Some responses were limited by a focus on a specific renewable energy scheme, such as the Three Gorges Dam in the case of HEP, rather than HEP as a source. At best the material was applied to the question and used in support of more general points, such as the displacement of population or disruption to aquatic systems. Some candidates confused HEP and tidal power or mistakenly treated them as the same.
- (b) This was a very open question which required candidates to have a good plan for their response and an evaluative approach. Many essays were predominantly or wholly explanatory, with an 'Another factor ...' or 'Another important factor ...' approach. The best were selective in the factors covered; comprehensive responses not being necessary – or possible – in the time available. They also made links between the factors rather than treating each separately, for example how governments in their energy policies balance environmental concerns with cost, or, seek energy security as a top priority subjugating all other factors to that end. Resource endowment, whilst contributory, was perhaps over-emphasised in some essays. The best recognised that influential factors are complex, varying between countries and that they are dynamic. There was some good contemporary detail of policy changes and of technological change such as fracking. In a question about supply, demand was relevant if linked to supply. Few candidates confused the two.

Question 4

- (a) The full range of response quality was seen. At the upper end, there were some well-organised, carefully supported and broadly-based explanations combining physical factors and human factors effectively. Many of the best included content about supply structures from private water companies to government bodies and NGOs, and hard engineering from wells and dams to piped systems. At the low end too much emphasis was put on rainfall by some and on demand by others. The focus needed to be on water supply, for example how population increase makes provision of water difficult. Most responses were about supply of water in terms of quantity (amount). The variable quality of water supply was also creditable, for example in terms of the availability of safe drinking water as in Goal 6 of the UN Sustainable Development Goals (SDGs).

- (b) This was effectively answered by many candidates, establishing a personal view in relation to the causal connection between economic factors and environmental degradation. Some used one example in considerable detail, others combined examples. Taking more than one example worked especially well when there was an element of contrast between the two as this facilitated and enriched the assessment. The best responses maintained a disciplined focus on 'the main cause' of environmental degradation and did not stray into economic factors, notably finance, for improving the environment later. Some made important links between economic factors, such as agricultural production and other factors: social, such as population pressure or a survival motive, or political, where governments either introduced poorly-conceived schemes or where poor governance was itself a cause of environmental degradation. Examiners had no expectation of what the personal view and assessment should be. Each analysis was credited in terms of the evidence presented, argument pursued and assessment made. There were some insightful essays about the dynamic interaction of different factors and the extent to which there was an economic foundation to each or all of them. As elsewhere the best use of examples and case studies was highly selective in order to maintain a focus on the question. A narrative response, 'telling the story' of a degraded environment in terms of causes, attempts and successes, although factually correct and detailed was unsuited to this question and only partially creditable.

Global interdependence

Question 5

- (a) (i) A good response required skills of data interpretation, vocabulary to express pattern and data support from Fig. 1. There was also the need for mathematical accuracy, where subtractions or the calculation of percentages from the data in Fig. 1 were needed. Many candidates observed that Japan had a trade deficit in 2012 (the value of imports being greater than the value of exports). Some only described the highest and the lowest trade partners, which was a narrow approach to the information in Fig. 1. Some listed the data by region/country which was an inadequate approach to pattern. The best identified the dominance of trade with Rest of Asia and China, significant imports from the Middle East and the least trade overall (imports and exports) with the EU, with some data support. Some observed the heavily unequal trading relationships with Rest of Asia (trade surplus of \$97.39 billion) and the Middle East (trade deficit of \$131.83 billion).
- (ii) Reasoning was expected from understanding of world trade and the factors affecting it, rather than from knowledge of Japan or of the other regions and countries shown in Fig. 1 which is not in the syllabus. Many candidates developed a response based on influences such as resource endowment, distance and proximity, historical relationships and trade blocs, notably the EU's preferential trade agreement with member states and its tariff structure. Some candidates thought they should write about each region/country which tended to lead to superficial and speculative writing. Almost all candidates understood the significance of the Middle East in supplying Japan with oil.
- (b) A full response required the use of examples, a focus on effectiveness and both the 'some countries' and the 'others'. Some candidates only wrote in generalisation, which is an attribute of Level 1. Some altered the focus of the question slightly by writing about the benefits of aid and the problems of aid. Some only wrote about ineffective aid and left out the 'some' (countries where aid is more effective) leaving a partial and unbalanced essay. Different explanatory factors were considered. Two of the most popular were the type of aid and the issue of governance or financial management, good or 'bad'. Some wrote carefully so as to be able to bring in key ideas such as dependency on aid as part of its ineffectiveness. Some of the best contrasted outcomes from two similar events in two different locations so as to consider effectiveness; for example, tsunamis in the Indian Ocean and Japan, earthquakes in Haiti and Italy, or a hurricane in the Caribbean and Hurricane Katrina in the USA. There was some good use of detailed information about specific aid projects, for example development aid. This could cover how much money was given, who was helped, where the money ended up and what the aid did or did not achieve. Credit was given for ideas such as bottom-up and top-down aid and the importance of co-operation and the involvement of grassroots stakeholders in the allocation and distribution of aid.

Question 6

- (a) An explanation was needed, following the command word 'explain'. A significant number of candidates provided an assessment, for example of whether the environmental disadvantages of tourism outweigh the environmental advantages. The only AO4 evaluation marks are in **parts (b)** of the questions on Paper 3 and as such assessment was not needed and could not be credited. The best responses made use of detailed examples from named locations and explained several advantages and disadvantages. Some candidates associated advantages only with ecotourism, which is a restricted view. Others wrote of environmental protection and preservation in national parks and marine parks; landscape 'beautification' notably with tree planting and garden development in resorts; and work educating tourists about the environment and how to treat it, for example in relation to scuba diving near coral reefs or trekking in mountainous regions. There was much that could have been written about disadvantages from deforestation for construction of hotels and roads to air pollution from tourist buses and long-haul flights. Some excellent factual content was seen about water scarcity in Mediterranean resorts and in Goa. Lower-scoring responses could be vague, perhaps focussing on pollution especially litter, and using examples in name only; 'e.g. Spain', 'e.g. Kenya'.
- (b) One of the keys to success here was robust understanding of the term economic development, rather than just economic growth. Economic development implies change in the structure of the economy over time combined with an increase in personal social and economic wellbeing. Some very good work was seen linking tourism to changes in tourism services and tourist resorts as well as to other sectors of the economy, such as agriculture to help meet the increased food demand and construction to build hotels, restaurants and other tourism-related facilities. The assessment could be developed in a number of different ways. One way was assessing the degree to which tourism was isolated from the rest of the economy, for example in an enclave resort or through heavy leakage of profits abroad. Another was by assessing other tourism-related issues such as seasonal unemployment, the employment of foreign nationals and the high risks associated with hazardous events, global terrorism and health scares. A third was to assess tourism as one sector in the context of the whole economy: against visible trade, manufacturing, the export of primary products, or in the case of capital cities in Europe, the commercial structure of a post-industrial economy. Some high end essays took two of these routes or all of them, providing an in-depth assessment of economic development from tourism. Many candidates attempted to use the life cycle model applied to a tourist destination. Whilst some made this work by careful adaptation and analysis, in many the stage-by-stage approach became narrative and got in the way of answering this particular question.

Economic transition

Question 7

Careful deconstruction of each part into its key elements, and addressing each of them, enhanced performance.

- (a) A full response described nature and causes of wellbeing both social and economic. As the two are closely related it was acceptable both to differentiate them and to treat them together. Nature was often overlooked or given insufficient attention. It could be done by comparison MEDCs/LEDCs or by continent. Less effective was contrasting two named countries, one MEDC and one LEDC except when this was illustrative of wider inequalities at the global scale. Examples of social inequality in wellbeing could, for example, be in infant mortality rate, life expectancy, calorie consumption per person per day or literacy rate. Examples of economic inequality in wellbeing could be shown by GDP per person, percentage living on less than US\$1.90 a day (World Bank, 'extreme poverty') or percentage in informal employment. Most candidates answered more effectively about causes than about nature. Causes are multiple, dynamic and interactive; in all dimensions: physical, social, economic, political and include historical, such as colonisation. Many responses would have been enhanced with evidence or exemplar support for the general points made. No evaluation was required by the command word 'Describe' and no credit available for assessment.

- (b) A similar wording to that of **Question 3(b)**, see comments above. Most candidates explained the factors affecting TNCs; few managed to assess them effectively. To fully answer the question, it was necessary to cover both 'growth' and 'spatial structure', although many factors are shared by both. The responses showed that most candidates had a case study of a TNC; the challenge was to select material from it and apply it to answering this specific question. Some case studies were too up-to-date to answer 'growth' other than implicitly. Some responses were very general mentioning a TNC in name only. A few exceptional responses were structured as an assessment, handled a considerable number of factors recognising the links between them, provided examples and counter-examples in a perceptive and nuanced way and were strong conceptually in terms of the functioning of the global economy in the twenty-first century, using subject terms with precision.

Question 8

- (a) (i) Nearly all candidates understood the meaning of the term *pattern*. In this case it was a spatial pattern. The best responses covered the whole of Vietnam and used vocabulary such as 'concentrated', 'isolated', 'varying', 'strip', 'cluster'; the cardinal points N, S, E and W; percentage data support from the Key; and location names from the map, such as Red River Delta. Some systematised their work linking pattern to high land (Northern Mountains, Central Highlands) and the two deltas, effectively. Many candidates only considered the highest and the lowest poverty rates or wrote quite generally without evidence from Fig. 2, limiting achievement.
- (ii) The full range of answer quality was seen. Comprehensive responses were not required for the modest mark allocation. Limitations included that the data were out of date (2009) and that no definition of poverty rate was shown. Some candidates explained the significance of the lack of other information, such as population distribution, cities, physical geography and land borders. The perceptive noted the word 'development' in the question and explained that development is a much wider concept than the absence of poverty. Some explored other measures of development that would be useful. A few mentioned issues of data collection in Vietnam, the use of samples and data reliability. Limitations that were recognised were not always clearly expressed.
- (b) For almost all candidates the concepts of regional disparities and core-periphery were reasonably secure. The work of a few included interpretation at a scale not studied in the 9696 syllabus: world regions for the disparities, and urban core (CBD) and urban periphery. The Cambridge marking approach is for examiners to ignore irrelevance (rather than penalise it). Many candidates provided an argument which first agreed with the stated view and then a counter-argument comprising one or more alternative explanations. This worked well and set up the necessary assessment of extent of agreement. Most responses would have been improved by careful consideration of the periphery element. The content on core-periphery was mostly imbalanced heavily in favour of the core, with either little on the periphery or the periphery implicit, present only to supply flows of labour, capital and raw materials to the core. The chosen country could be present in good detail and more widely than the core region and one peripheral region with disparities identified with supporting data as evidence. In most responses, more detail and development of the chosen country would have helped both to support and to progress the analysis. Some responses were quite narrative with almost incidental links to this specific question. No particular position of agreement or disagreement was expected; some agreed with the stated view, others chose one or more other explanations as 'best'. These included the contributory failure of government regional policy, location, the physical environment and historical reasons such as colonial history.

GEOGRAPHY

Paper 9696/32
Advanced Human Options

Key messages

- Deconstructing a question into its constituent elements and addressing each one is an important examination skill. Some of the **part (b)** responses had two different aspects to them, whilst others were focused upon one main theme. On the other hand, the focus of a question might need careful consideration, since it may not fit the way a case study has been presented to a candidate.
- There is a need for actual, real examples, rather than generalisation or, worse, hypothetical comment about what could or would or may happen. Most questions are about the recent past and/or the present with little room to comment for credit on the future. Examples should have details, enabling the support to move the quality of the response from the generic to specific.
- Good use of many home country and/or home world region examples was observed, which is to be encouraged.

General comments

The resources in the insert were provided for **Questions 2, 4, 6 and 8**, with the two for **Questions 2 and 8** having direct data description qualities. The photograph in **Question 4** could have been used more effectively, if candidates had referred to specific evidence from the photograph to support their response.

The candidates overall displayed a wide range of abilities. Some very high scoring performances were seen, with excellent skills in argument, analysis, use of evidence and evaluation. Two full responses in satisfactory to very good English were provided by a large percentage of the candidates, with little evidence of candidates making rubric errors or using note form for **part (b)** responses.

Comments on specific questions

Question 1

- (a) Success for this part of the question was determined by the ability of candidates to clearly refer to the effects of specific aspects of climate to both agricultural land-use and practices on farms. The most common approaches to climate included references to temperature and precipitation, with more developed ideas displaying knowledge of seasonal variations in either variable. Some candidates did not display clear understanding of what is meant by agricultural land use and practices on farms. For clarity to Centres, 'Land-use' is: what the land is used for, whilst 'practices on farms' is: activities which facilitate farming and production. Land-use might have been approached by using named crops to illustrate and explain how elements of climate influence the choice of such crops, or more broadly with reference to types of agricultural system: arable and pastoral, and/or types of production: intensive and extensive. Practices on farms could have been approached by considering how climate influences activities involved in the cycle of crop growth or food production such as: soil preparation, crop sowing, practices which encourage growth, harvesting and storage, with broader aspects such as maintenance of soil fertility over longer periods. Some sound examples of this were seen where candidates linked indoor production of crops or livestock or timing of planting to coincide with limits set by climatic variables.

The best responses recognised that climate means temperature and ppt and other elements such as wind, frost and hazards, paid attention to both land-use and practices and integrated examples for support. It was good to see the inclusion of pastoral agriculture, from extensive cattle ranching to intensive indoor systems for efficiency and to avoid extreme heat and extreme cold. Most responses would have benefitted from more examples, for example specific crops or animals,

named locations, types of farming systems, specific climate types or climatic events. Some responses were poorly sorted or poorly organised. For example, having accessed 'physical' in their learning, many candidates wrote about physical factors other than climate including soils and non-climatic hazards such as pests or were imbalanced with little coverage of either land-use or practices on farms. Some responses were narrowly developed. These were usually about the climatic constraints on crop production.

- (b) Many candidates showed good understanding of factors (social, economic, physical/environmental and political); fewer managed to develop a convincing and evidence-based assessment. One of the things that examiners look for is the selection, direction and application of learned material to answer the question set. The best responses framed their essays as an assessment of the extent to which attempts to manage agricultural change were successful, or not successful. Content on political factors was developed from specific government actions to include wider political aspects such as: political stability and international relations affecting exports of cash crops. Other factors were explored such as: opening of new markets, finance, land tenure, tradition and the attitudes of farmers with perceptive comment on the relative importance of political and other factors in determining the success of attempts to manage agricultural change. Less successful responses might have displayed knowledge of a case study but were less able to deconstruct the demands of the question leading to either a narrative response about change or an explanatory one about what the government had done. Overall the challenge in the question was recognition of the demand in the question that the success required was not of the agricultural change itself, but of the success of managing the change.

Question 2

- (a) (i) Many candidates were able to successfully describe the pattern of localisation, considering patterns of strong and weak localisation and using appropriate descriptive terms. They effectively used information from the key and map information such as country names, the compass orientation and some using the scale, with a clear focus on pattern. The observation that a high proportion of the area of the UK, including all of Wales, shows no localisation <1.00 was important as one element of the description of pattern. Some responses took a more limited approach of listing the localisation country by country whilst others did not recognise the command to describe the pattern and attempted to suggest reasons for the pattern, which was not creditable.
- (ii) Most candidates know what agglomeration is and used factors such external economies of scale and linkages, and benefits from infrastructure provision and sharing as ways to explain the advantages of agglomeration. The use of an example to aid the explanation often reinforced a response, but was not needed.
- (b) Often done weakly and not to the quality of (a). Weaker answers often described the nature of the changes without really considering why they occurred and often forgetting to mention and/or assess their effects. The best answers understood the situation very well in their chosen country and addressed both aspects of the question, causes and effects of change in manufacturing and related services and recognised the differing commands to each aspect of the question. Causes varied, with some responses focusing on government policy and changes to policy, with these responses frequently focused upon change in an LEDC, whilst others focused on declining resource bases or factors influencing domestic resource use such as increased competition from abroad in either resources or production aspects, with these responses tending to focus on MEDCs. Effects varied and included reference to economic and social aspects at both national and regional scales. The better responses assessed the effects of the changes and considered how far the change was positive or negative in terms of character, location or organisation of industrial production in the one country and or to focus on more broader effects such as regional shifts in prosperity, impact on internal migration patterns, impacts on GDP, economic structure, unemployment, exports, reputation and position in the global economy.

Question 3

A country was needed and it needed to be the same for (a) and (b).

- (a) The best responses were issues-based and focused upon supply issues with comment on demand linked to supply. Some covered two or three issues in depth, others explained more issues more briefly, some of which were inter-related. It was important to recognise the command of explain rather than just state or identify the issue. For example, 'meeting increasing demand' identifies a

supply issue. The explanation could be of why demand was increasing and why meeting it was challenging, such as a lack of capacity, the need to construct and open power stations (which takes years), a reliance on expensive fuel imports, etc. Issues explained included general approaches such as acquiring enough energy, the right kind of energy and distributing it widely, with more specific reference to issues such as the challenges of supplying remote and inaccessible rural areas; regular power cuts and load shedding; cost and finance issues; environmental concerns voiced by the international community and by citizens; and concerns over the safety of nuclear power. Weaker responses tended to focus purely on the advantages and disadvantages of different sources of energy with a limited link to the country chosen.

- (b) This question required accurate and reasonably up to date factual knowledge of energy supply in the chosen country in terms of the proportion or percentage of renewables and non-renewables in the energy mix used for meeting the demand for electricity. Some locations selected were self-limiting to some degree in terms of a lack of mix within the sources of energy in the chosen country, with one source of energy dominating the energy sources. Data presented by candidates is sometimes faulty which can be due to recall issues under exam pressure but can also be due to the difference between actual supply contributions and capacity. In some cases, the definition of renewables was not fully secure. There is some confusion between (natural) gas, a non-renewable and biogas, which is renewable, whilst it is good to note that most responses considering nuclear energy displayed awareness of aspects of both renewability and non-renewability of this source. Better responses considered both the demand and supply side as well as assessing the balance between renewable and non-renewables. They could often quote up-to-date figures about proportional electricity production and considered the overall picture for the country. One approach was to consider renewable sources individually, establishing links between each with demand and highlighting limiting factors such as drought and siltation on HEP production or the relative unreliability of wind. Some recognised the implications of such projects in terms of cost, technology and time for relatively small amounts of energy production. An alternative approach was to consider the overall balance of renewables and non-renewables within the one country and to explain the factors responsible for the relative proportions. Weaker responses struggled in part because demand was not well understood as a concept, or because recall knowledge dominated, for example the case study of one scheme, which could only be one element in an appropriate assessment of the country's energy. The element of non-renewables could be overlooked, which given 'the extent to which' element, was a limitation. There was also a tendency in some responses to talk more about future energy situations instead of the current one.

Question 4

- (a) The best considered both quantity and quality of water supply and explained, in some detail, how the well enables local people to overcome issues linked to water supply within the context suggested by the resource provided in the photograph. Issues included: dependency on distant and perhaps seasonal rivers; collecting water is time consuming and laborious work, mostly carried out by women and children; restrictions on quantity; dangers from open water sources in terms of contamination, disease and other hazards etc. These better responses were then able to develop the idea of overcoming these issues by developing ideas such as enabling women to have more time for important work, for example literacy classes or running a small business as a route to gender empowerment and socio-economic improvement or allowing children to take part in school and all that education offers in terms of development. Quality issues were often rightly linked to morbidity and mortality through waterborne infections, with diarrhoea being acknowledged as a major cause of death, especially of the vulnerable. Some of the best responses referred to the photograph, noting that the well is capped, close to the homes, and separated from other activities by a small wall – but equally, some very good ones did not.
- (b) The best responses were of an environment at a suitable size and scale with a clear focus on attempts to improve the environment. For the size and scale aspect, air pollution in Beijing is more appropriate and easier to handle in a focussed manner than 'urban air pollution in the world', and tropical rainforest in Borneo, than the world's tropical rainforests, i.e. the whole biome. Some small-scale examples, such as of a disused mine or a polluted small lake, explored in detail also performed well. Successful description of attempts to improve the degraded environment is also influenced by the selection of an appropriately sized environment, since specific attempts in specific places are easier to assess in terms of their success or not, than broad sweeping attempts such as legislation to improve environmental quality across a country. Some candidates took either a time-consuming approach or misconstrued the demands of the question and described, sometimes in detail, how the environment had become degraded, without making it relevant to the

assessment of the success of attempts to improve the environment. Weaker answers often produced an unbalanced response with limited reference to the actual environment or details about the attempts to improve it. Knowledge about the chosen environment tended to be basic or rather out-of-date, such as mid-twentieth century London smog. A broad view of environmental improvement was taken, crediting both positive changes to the environment, such as improving air quality, growth of trees and ecological diversity, and positive changes for people in terms of social and economic wellbeing and quality of life. Assessment is one of the key differentiators with basic assessment comments such as 'it was a success/it worked well' to extended assessments which were insightful, nuanced, perhaps acknowledging ongoing threats and/or concerns or that outcomes varied for different groups of people, at different times or in different locations.

Question 5

- (a) (i) Overall candidates achieved some marks but rarely full marks, with weaknesses for each type of aid frequently revolving around confusion between relief (emergency) aid and debt relief or development aid seen as government aid and the word 'development' simply reused without elaboration.
- (ii) Most candidates understood the meaning of tied aid and could give an example linked to a specific project and the countries involved, the Pergau Dam was the most frequently used example. Explaining the disadvantages was more of a challenge with the best able to articulate at a broad level issues such as the disadvantageous power relationship; adverse financial implications of being tied to purchasing products from the donor at a higher price, and the inappropriateness, for example of arms deals; whilst others offered specific disadvantages of named examples for countries. Some candidates did not understand the term *tied aid*, seeming to think that it meant any kind of tie at all, for example all aid given by the formal colonial power to a colony.
- (b) A question with two commands, the first an explanation and the second expecting an assessment both of which are plural: causes and problems, so the best responses recognised these demands in the question. The best explanations of causes covered a range of mechanisms behind debt at a national scale, within a geographical context including trade deficit, odious debt and oil debt. Beyond the mechanisms they explained the background economic situation in terms of competition in the global economy, functioning of global financial institutions (GFIs) and mismanagement including corruption, the functioning of elites and the costs of hazardous events and conflict. Stronger responses provided relevant examples and displayed a balance between causes and problems. Some of the best recognised that debt by itself was not necessarily a bad thing with some comparing the context of debt between MEDCs and LEDCs and enabling a route into assessment of the problems. On the whole, the problems were less well covered than the causes. All recognised that life would be tough for the people and that debt has 'bad' consequences. Few could articulate specific problems well and even fewer could provide an assessment. Better assessments of the problems displayed knowledge of the problems for a specific country with Greece being successfully used by many, whilst other valid comment was seen on the USA and UK, with a tendency to be more generic about LEDC examples.

Question 6

- (a) The best responses integrated specific problems of mass tourism (not just the environmental ones) with the examples and provided explanation of how alternative tourism tries to overcome these problems in some detail. Sometimes this was approached conceptually referring to content such as carrying capacity or Doxey's Irridex, or it was approached using facts and data, for example about loss of coral reefs, water consumption, seasonal employment, leakage, etc. Some thought that they should work through the whole diagram, box by box, which wasted time and often showed that the only type of alternative tourism they understood was ecotourism (agritourism was particularly badly done). With ecotourism, the best explained how it addresses not only environmental problems but also economic and social ones. Weaker responses sometimes approached the question as an opportunity to simply repeat the characteristics from the source. These responses were also characterised by misunderstanding of concepts for example cruising is not usually an example of alternative tourism; numbers alone cannot distinguish mass tourism from alternatives (trekking in the Mt Everest region involves relatively few people but the carrying capacity is also very low so it cannot be called ecotourism); alternative tourism does not just mean preventing certain things happening like collecting litter and it is not simply as a way of diverting people from mass tourism destinations and so spreading or diluting the impacts. Knowledge of ecotourism needed to be

selected, and directed and applied to this question, i.e. about overcoming the problems of mass tourism.

- (b) Responses to this question required specific knowledge from the case study about the factors behind the growth and development of one tourist area or resort, along with an assessment of the importance of the factors with some attempt to identify and justify the most important factor(s). This should have been a straightforward question for those candidates with a sound background to their chosen example and who structured their response around the factors rather than just the historical changes. They also demonstrated an understanding that growth went beyond simply a greater number of people visiting. Development was sometimes more implicit but changing character of the resort was clear. Inclusion of factors other than supply, such as demand factors about the tourists themselves, and facilitating factors such as internet, social media, promotions, packages, new airports, budget airlines and government investment in the sector, was a valid approach, with the best responses able to provide specific examples for the chosen tourist area or resort. Assessment varied from the astute responses which combined, for example, uniqueness of the destination, with perceived safety, targeted marketing and tight control on numbers, construction, etc. to assure sustainability, whilst others said the most important factors were, say 'economic' and justified that assessment. On the other hand, some candidates approached the question using the life cycle model with exemplification for their selected location, however, this approach tended to lead to a narrative response with at best embedded factors and the assessment could simply be lost or left out. Some took a descriptive approach of factors which in less successful cases took the form of: 'Another factor ... another factor ...' or they stated that all the factors were important, whilst others had limited assessment based for instance on one kind of factors, notably supply factors (what the tourist area or resort had to offer), often forgetting factors such as climate, which can be highly attractive to those from a different climatic region or within a specific season.

Question 7

- (a) Many candidates had a sound background knowledge, either able to draw an accurate diagram of the Clark Fisher model or describe how the sectors changed in importance throughout different stages, but they were not always able to apply it suitably. Almost all responses would have benefitted from a better grasp of what 'nature' and 'role' mean and the ability to articulate links between them. The best had a very good sense of economic transition with economic development and how nature changes in each sector, for example from subsistence agriculture for the majority in an LEDC, sustaining the population and providing essential raw materials, to minority commercial agriculture in advanced MEDC employing less than 10%. Weak responses did not get much further than describing what each of the sectors means and when they tend to be most important to development. Some are still unsure of the full meaning of quaternary industry.
- (b) Candidates could approach the question from either the globalisation or the TNC aspect but a balance of comment was expected on each with the consideration of a range of factors. Responses should also have focused on industrial activity and not solely on globalisation as a phenomenon. Better responses commented on how the organisation, spatial structure and role of TNCs (in general or by using a specific example) lead to the spreading of various aspects of the production, design and marketing processes away from traditional homelands of the companies. These better responses either agreed largely and substantiated it by considering the ways that TNCs operate globally, for example profit maximising and cost minimising behaviours that spread manufacturing by establishing branch plants and out-sourcing or through the NIDL; or disagreed somewhat and considered one or more other factors. Of these other factors, the main one was the technological revolution (or the twin factors of new ICT and transport technology). Either way the better responses were characterised by a reasoned decision about their importance in globalising industrial activity. Weaker responses tended to concentrate on the growth of TNCs rather than linking them to globalisation of industrial activity. Some answered without naming a single TNC. Others wrote about one or more TNCs about which they had learned without being able to address the actual question set. Some tried to widen the concept of globalisation beyond industry or had little to say about importance of factors, especially of those other than TNCs. There was a tendency to concentrate only on more modern factors such as IT, ignoring the idea that globalisation pre-dates the internet era.

Question 8

- (a) (i) Effective answers to the question knew to interpret trends – as changes over time – and how to express them making comparisons of both the shape and the level of growth in domestic product between the two regions. It was creditable to identify similarities and differences, with some data support, for example, observing the crossover point in 2007. A useful word which many candidates did not use is *fluctuating* or *fluctuations*. One inadequate approach was isolating the highest and lowest points (which is not a trend), with some other responses offering explanation of the trends, which was outside the question.
- (ii) Most focussed on the good points of the chosen measure, whilst better responses explained the advantages of the other method selected in comparison to GDP. HDI was a popular choice, however the mistake persists that infant mortality rate is part of the index. IMR itself was offered as a highly effective measure being affected by so many different aspects of life. Few referred to the regions within a country – the ones who did tended to do this well and linked it, for example, to targeted development plans.
- (b) The best responses had strong conceptual understanding of cumulative causation and explained cumulation in some detail, from initial advantages (maybe derived advantages), regional divergence, the emergence of core and periphery, with backwash effects. Some made effective argument about other factors from challenging environments (remote, inaccessible, mountainous, forest-covered) to the failure of governance and the entrenchment of linguistic and cultural differences. Some successful arguments noted links models such as Friedman. At the low end, candidates tended to describe regional differences, or worst, described the core and rather assumed away the rest. Most responses would have been helped with some evidence of what the disparities are in some key measures, such as GDP per person, literacy, life expectancy, infant mortality rate, between regions.

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A country was needed and it needed to be the same for (a) and (b).

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- (a) The best considered both quantity and quality of water supply and explained, in some detail, how the well enables local people to overcome issues linked to water supply within the context suggested by the resource provided in the photograph. Issues included: dependency on distant and perhaps seasonal rivers; collecting water is time consuming and laborious work, mostly carried out by women and children; restrictions on quantity; dangers from open water sources in terms of contamination, disease and other hazards etc. These better responses were then able to develop the idea of overcoming these issues by developing ideas such as enabling women to have more time for important work, for example literacy classes or running a small business as a route to gender empowerment and socio-economic improvement or allowing children to take part in school and all that education offers in terms of development. Quality issues were often rightly linked to morbidity and mortality through waterborne infections, with diarrhoea being acknowledged as a major cause of death, especially of the vulnerable. Some of the best responses referred to the photograph, noting that the well is capped, close to the homes, and separated from other activities by a small wall – but equally, some very good ones did not.
- (b) The best responses were of an environment at a suitable size and scale with a clear focus on attempts to improve the environment. For the size and scale aspect, air pollution in Beijing is more appropriate and easier to handle in a focussed manner than 'urban air pollution in the world', and tropical rainforest in Borneo, than the world's tropical rainforests, i.e. the whole biome. Some small-scale examples, such as of a disused mine or a polluted small lake, explored in detail also performed well. Successful description of attempts to improve the degraded environment is also influenced by the selection of an appropriately sized environment, since specific attempts in specific places are easier to assess in terms of their success or not, than broad sweeping attempts such as legislation to improve environmental quality across a country. Some candidates took either a time-consuming approach or misconstrued the demands of the question and described, sometimes in detail, how the environment had become degraded, without making it relevant to the

assessment of the success of attempts to improve the environment. Weaker answers often produced an unbalanced response with limited reference to the actual environment or details about the attempts to improve it. Knowledge about the chosen environment tended to be basic or rather out-of-date, such as mid-twentieth century London smog. A broad view of environmental improvement was taken, crediting both positive changes to the environment, such as improving air quality, growth of trees and ecological diversity, and positive changes for people in terms of social and economic wellbeing and quality of life. Assessment is one of the key differentiators with basic assessment comments such as 'it was a success/it worked well' to extended assessments which were insightful, nuanced, perhaps acknowledging ongoing threats and/or concerns or that outcomes varied for different groups of people, at different times or in different locations.

Question 5

- (a) (i) Overall candidates achieved some marks but rarely full marks, with weaknesses for each type of aid frequently revolving around confusion between relief (emergency) aid and debt relief or development aid seen as government aid and the word 'development' simply reused without elaboration.
- (ii) Most candidates understood the meaning of tied aid and could give an example linked to a specific project and the countries involved, the Pergau Dam was the most frequently used example. Explaining the disadvantages was more of a challenge with the best able to articulate at a broad level issues such as the disadvantageous power relationship; adverse financial implications of being tied to purchasing products from the donor at a higher price, and the inappropriateness, for example of arms deals; whilst others offered specific disadvantages of named examples for countries. Some candidates did not understand the term *tied aid*, seeming to think that it meant any kind of tie at all, for example all aid given by the formal colonial power to a colony.
- (b) A question with two commands, the first an explanation and the second expecting an assessment both of which are plural: causes and problems, so the best responses recognised these demands in the question. The best explanations of causes covered a range of mechanisms behind debt at a national scale, within a geographical context including trade deficit, odious debt and oil debt. Beyond the mechanisms they explained the background economic situation in terms of competition in the global economy, functioning of global financial institutions (GFIs) and mismanagement including corruption, the functioning of elites and the costs of hazardous events and conflict. Stronger responses provided relevant examples and displayed a balance between causes and problems. Some of the best recognised that debt by itself was not necessarily a bad thing with some comparing the context of debt between MEDCs and LEDCs and enabling a route into assessment of the problems. On the whole, the problems were less well covered than the causes. All recognised that life would be tough for the people and that debt has 'bad' consequences. Few could articulate specific problems well and even fewer could provide an assessment. Better assessments of the problems displayed knowledge of the problems for a specific country with Greece being successfully used by many, whilst other valid comment was seen on the USA and UK, with a tendency to be more generic about LEDC examples.

Question 6

- (a) The best responses integrated specific problems of mass tourism (not just the environmental ones) with the examples and provided explanation of how alternative tourism tries to overcome these problems in some detail. Sometimes this was approached conceptually referring to content such as carrying capacity or Doxey's Irridex, or it was approached using facts and data, for example about loss of coral reefs, water consumption, seasonal employment, leakage, etc. Some thought that they should work through the whole diagram, box by box, which wasted time and often showed that the only type of alternative tourism they understood was ecotourism (agritourism was particularly badly done). With ecotourism, the best explained how it addresses not only environmental problems but also economic and social ones. Weaker responses sometimes approached the question as an opportunity to simply repeat the characteristics from the source. These responses were also characterised by misunderstanding of concepts for example cruising is not usually an example of alternative tourism; numbers alone cannot distinguish mass tourism from alternatives (trekking in the Mt Everest region involves relatively few people but the carrying capacity is also very low so it cannot be called ecotourism); alternative tourism does not just mean preventing certain things happening like collecting litter and it is not simply as a way of diverting people from mass tourism destinations and so spreading or diluting the impacts. Knowledge of ecotourism needed to be

selected, and directed and applied to this question, i.e. about overcoming the problems of mass tourism.

- (b) Responses to this question required specific knowledge from the case study about the factors behind the growth and development of one tourist area or resort, along with an assessment of the importance of the factors with some attempt to identify and justify the most important factor(s). This should have been a straightforward question for those candidates with a sound background to their chosen example and who structured their response around the factors rather than just the historical changes. They also demonstrated an understanding that growth went beyond simply a greater number of people visiting. Development was sometimes more implicit but changing character of the resort was clear. Inclusion of factors other than supply, such as demand factors about the tourists themselves, and facilitating factors such as internet, social media, promotions, packages, new airports, budget airlines and government investment in the sector, was a valid approach, with the best responses able to provide specific examples for the chosen tourist area or resort. Assessment varied from the astute responses which combined, for example, uniqueness of the destination, with perceived safety, targeted marketing and tight control on numbers, construction, etc. to assure sustainability, whilst others said the most important factors were, say 'economic' and justified that assessment. On the other hand, some candidates approached the question using the life cycle model with exemplification for their selected location, however, this approach tended to lead to a narrative response with at best embedded factors and the assessment could simply be lost or left out. Some took a descriptive approach of factors which in less successful cases took the form of: 'Another factor ... another factor ...' or they stated that all the factors were important, whilst others had limited assessment based for instance on one kind of factors, notably supply factors (what the tourist area or resort had to offer), often forgetting factors such as climate, which can be highly attractive to those from a different climatic region or within a specific season.

Question 7

- (a) Many candidates had a sound background knowledge, either able to draw an accurate diagram of the Clark Fisher model or describe how the sectors changed in importance throughout different stages, but they were not always able to apply it suitably. Almost all responses would have benefitted from a better grasp of what 'nature' and 'role' mean and the ability to articulate links between them. The best had a very good sense of economic transition with economic development and how nature changes in each sector, for example from subsistence agriculture for the majority in an LEDC, sustaining the population and providing essential raw materials, to minority commercial agriculture in advanced MEDC employing less than 10%. Weak responses did not get much further than describing what each of the sectors means and when they tend to be most important to development. Some are still unsure of the full meaning of quaternary industry.
- (b) Candidates could approach the question from either the globalisation or the TNC aspect but a balance of comment was expected on each with the consideration of a range of factors. Responses should also have focused on industrial activity and not solely on globalisation as a phenomenon. Better responses commented on how the organisation, spatial structure and role of TNCs (in general or by using a specific example) lead to the spreading of various aspects of the production, design and marketing processes away from traditional homelands of the companies. These better responses either agreed largely and substantiated it by considering the ways that TNCs operate globally, for example profit maximising and cost minimising behaviours that spread manufacturing by establishing branch plants and out-sourcing or through the NIDL; or disagreed somewhat and considered one or more other factors. Of these other factors, the main one was the technological revolution (or the twin factors of new ICT and transport technology). Either way the better responses were characterised by a reasoned decision about their importance in globalising industrial activity. Weaker responses tended to concentrate on the growth of TNCs rather than linking them to globalisation of industrial activity. Some answered without naming a single TNC. Others wrote about one or more TNCs about which they had learned without being able to address the actual question set. Some tried to widen the concept of globalisation beyond industry or had little to say about importance of factors, especially of those other than TNCs. There was a tendency to concentrate only on more modern factors such as IT, ignoring the idea that globalisation pre-dates the internet era.

Question 8

- (a) (i) Effective answers to the question knew to interpret trends – as changes over time – and how to express them making comparisons of both the shape and the level of growth in domestic product between the two regions. It was creditable to identify similarities and differences, with some data support, for example, observing the crossover point in 2007. A useful word which many candidates did not use is *fluctuating* or *fluctuations*. One inadequate approach was isolating the highest and lowest points (which is not a trend), with some other responses offering explanation of the trends, which was outside the question.
- (ii) Most focussed on the good points of the chosen measure, whilst better responses explained the advantages of the other method selected in comparison to GDP. HDI was a popular choice, however the mistake persists that infant mortality rate is part of the index. IMR itself was offered as a highly effective measure being affected by so many different aspects of life. Few referred to the regions within a country – the ones who did tended to do this well and linked it, for example, to targeted development plans.
- (b) The best responses had strong conceptual understanding of cumulative causation and explained cumulation in some detail, from initial advantages (maybe derived advantages), regional divergence, the emergence of core and periphery, with backwash effects. Some made effective argument about other factors from challenging environments (remote, inaccessible, mountainous, forest-covered) to the failure of governance and the entrenchment of linguistic and cultural differences. Some successful arguments noted links models such as Friedman. At the low end, candidates tended to describe regional differences, or worst, described the core and rather assumed away the rest. Most responses would have been helped with some evidence of what the disparities are in some key measures, such as GDP per person, literacy, life expectancy, infant mortality rate, between regions.