

GEOGRAPHY

Paper 9696/12
Core Physical Geography

General comments

There were some excellent answers, but the responses to some of the questions were poor. As noted in previous reports, it was clear that many candidates did not read the questions carefully enough. A variety of command words may appear in questions, but in this examination the ones that dominated were 'describe' and 'explain'. There is consistency in the demands of individual questions. In **Section A, part (b)** questions generally require description, while the **part (c)** questions require explanation. It is still the case that some candidates were not sufficiently clinical in their approach, offering explanations when only descriptions were demanded. This lack of precision was seen in responses to questions requiring definitions (**Questions 4(a)** and **6(a)**). Definitions need to be precise and explanation is not required.

Other command words continue to cause problems. The command word 'compare' includes both similarities and differences. Also, many candidates have trouble in describing trends. Both **Questions 1(b)** and **2(b)** asked for a comparison of trends. As the rainfall and river discharge data in **Question 1(b)** were expressed in monthly values throughout the year, the analysis should have been with reference to consistent patterns or changes throughout the year, not a month by month listing of the various values. Thus, the rainfall and river discharge patterns needed to be compared. Many candidates equated trend with correlation between the sets of data, which was not required. There were somewhat similar problems with **Question 2(b)**, but the changes in radiation levels were more consistent and there were better comparisons. It needs to be stressed that in many of the resource based questions, the use of data extracted from the resource is needed to obtain the full range of marks.

The only other general comment, before a consideration of specific questions, concerns the use of case studies. A case study requires precise locational information and detailed analysis of the topic being covered such as a recent flood event, as in **Question 4(c)**. In many of the answers it was far from clear which river or stretch of river was being discussed. Without specific details it is very difficult to assess the significance of the detail being ascribed to that case study. There is detailed guidance on case studies which can be accessed from the Cambridge International School Support Hub. The issue with **Question 4(c)** will be discussed in more detail later in the report.

The use of maps and diagrams and their accuracy remains variable. This would benefit from further focus and development. This was the case for **Questions 4(b)** and **6(b)**. In **Section B**, evaluation and assessment are dominant features, either explicitly or implicitly. All 'levels' questions lead candidates into some level of evaluation, and this was not always forthcoming. Level 3/4 responses are often differentiated through the detail and sophistication of the assessment.

Comments on specific questions

Section A

Question 1

- (a) Most candidates answered this question correctly, but the units (mms) were often omitted.
- (b) The problem with describing trends has been discussed in some detail earlier. This confusion tended to lower the mark that could be awarded.

- (c) There was a good response to this question and full marks were awarded to many candidates. The two main reasons discussed were the influence of vegetation in intercepting the rainfall and reducing the amount and speed with which water reached the river, and hard engineering procedures (dams, artificial levels, dredging, etc.) which had the same effect.

Question 2

- (a) Virtually all candidates stated the maximum amount of radiation correctly.
- (b) This 'trend' question was answered better than **Question 1(b)**, probably because there was a definite trend in the solar radiation absorbed by the Earth's surface which contrasted clearly with the variation in solar radiation reflected by clouds. A few candidates misread the question and answered it with respect to the solar radiation reflected by the Earth's surface.
- (c) Most candidates recognised that an explanation needed to refer to the variable cloud cover at different latitudes but were unable to offer consistent and accurate explanations as to why cloud cover varied. They were unable to place the conditions for cloud formation into a latitudinal context. There were some relevant points about the way amounts of incoming solar radiation vary with latitude, but this was only part of the answer. Far too many candidates still argue that the equator is closer to the sun.

Question 3

There was a much better response to this question and many candidates achieved very good marks.

- (a) Many candidates were able to score full marks with a description and the use of data.
- (b) Many candidates again achieved full marks.
- (c) The main point, as stressed in the Mark Scheme, is that precipitation is essential for deep weathering. Few candidates recognised that it is the penetration of water that is needed for this depth of weathering and therefore that chemical weathering processes are the most significant processes. The majority of the answers described weathering processes in general, often with little detail about the processes themselves. Thus, stating that water is required for hydrolysis without explaining how water is involved in this process was insufficient. Similarly, description of freeze-thaw weathering (not the most appropriate process for deep weathering) without explaining the role of water in detail, gained little credit.

Section B

Question 4

- (a) (i) Most candidates understood that the term *thalweg* referred to the area of maximum velocity in a river, but the definitions often failed to mention that it was the line of maximum velocity, thus reinforcing the previous comments about precision in definitions. Knowledge of the nature of bluffs was poor. Many candidates confused bluff with river cliff.
- (ii) This was answered well with most candidates noting at least two of the elements listed in the Mark Scheme. However, there was a tendency to confuse turbulent flow with helicoidal flow.
- (b) The problem with answers to this question was that the discussion started with the waterfall already in place. Few answers explained how the waterfall initially was formed by river erosion accentuating differing rock resistances along the bed of the river. This differential erosion would then lead to less resistant rock being eroded to commence the formation of the waterfall. The terms soft and hard rock are still being used when resistant and less resistant rock are more preferable terms. The nature of the rock can then be discussed in terms of the erosion processes that are able to exploit the less resistant elements in the rock. One of the easiest ways to explain waterfalls is by the retreat of a knickpoint after rejuvenation of the river system. Most of the large waterfalls in the world have formed in this way. Once the waterfall had been formed, answers describing the role of hydraulic action, cavitation and abrasion, especially in the plunge pool, were quite thorough.

- (c) The response to this question was extremely variable. There were many excellent accounts of a recent flood event. However, in many instances the detail expected from a case study was lacking. There were some accounts in which there was no mention of a specific river. Accounts of Bangladesh typified this. Thus, it was not clear whether a river flood was being discussed or a storm surge from a tropical cyclone. Simply mentioning a river with no indication as to where the flood occurred is not a case study. Many accounts of flooding of the River Chang Jiang (Yangtze) were of this nature. The river is one of the longest in the world and one would expect an answer on its flooding would be able to note where on the river the flooding occurred, such as which provinces and which cities were affected. There are many very detailed accounts of the 1998 flooding on many websites. Without detailed reference to the location of the flooding, it was very difficult to assess the accuracy of the descriptive detail. Thus answers tended to be very generic and could have applied to flooding anywhere.

Question 5

This was a more popular question than in previous years and there were some excellent answers.

- (a) In **part (i)** most candidates were able to describe, in general terms, how atmospheric pressure affects the direction and strength of winds. **Part (ii)** elicited a good response. The only element missing was how precipitation was caused after condensation of water droplets.
- (b) There were many excellent answers. There was perhaps a little too much concentration on the role of greenhouse gases, but the discussion of pollution domes was relevant.
- (c) There was a dichotomy of answers to this question with some very good answers and some which struggled to explain the roles of ocean currents and winds in transferring global heat energy. The better answers pointed out that ocean currents also influence wind systems and vice versa. Also, the fact that ocean currents have very little influence in transferring heat energy across large land masses and continents was mentioned by only a few candidates.

Question 6

- (a) In **part (i)**, definitions of the terms heave and slide were often lacking in precision. Many candidates explained the processes leading to heave but failed to state what it was. The same issue was prevalent in definitions of slide. Explanations were offered but it was not clear exactly what a slide was. The discussion could have been applicable to many types of mass movement. In **part (ii)** many candidates did not know what rills were or, if they did know, they could not explain their formation. A large number of candidates thought that rills were terracettes.
- (b) It is important to stress the information in the Mark Scheme, as ideas about the formation of fold mountains are still unclear. Convergent plate boundaries include destructive and collision margins. The mechanism of mountain formation is different at each. At destructive margins, as the oceanic plate is subducted, marine sediments are scraped off (accretionary wedge) onto the continental plate and uplifted to form the fold mountains. At collision margins, there is no subduction but one continental plate is thrust under the other, causing uplift and the creation of mountains. The two plates do not collide 'head on' and buckle. The Himalayas are often used as an example, but it needs stressing that the Himalayas were mostly formed when the plates were separated by the Tethys Sea and subduction did occur. This created the folding now seen in the uplifted Himalayan Mountains.
- (c) There was, in general, a good response to this question, with accounts discussing how human activity both decreases slope stability and increases it. The discussion was often backed up with good, detailed specific examples. As it was an evaluative question, discussion of other factors affecting slope stability were needed for marks in Level 3, and this was often forthcoming. However, there is still uncertainty as to how the factors discussed lead to instability. Simply stating that shear strength is decreased or shear stress increased without explaining how, is not a complete explanation.

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Key messages

- 1 Still too many candidates do not read the exact wording of questions, for example, **Question 2(c)** asked candidates to outline how push and pull factors cause rural-urban migration, but most candidates simply listed push and pull factors without linking them to how they caused the migration. There seemed to be significantly more candidates this year who did not directly answer the question set, especially in **Section A** questions.
- 2 To achieve well in part (c) of questions in **Section B** candidates should evaluate and use detailed examples. Detailed but relatively few examples are usually more effective than a large number of 'e.g. London' type examples.

General comments

Candidates generally performed well on this paper, often lifted by effective **Section A** answers, although few performed very well due to poor performance in **Section B** questions. Few attempted **Question 6** in **Section B**.

Candidates should appreciate that the marks indicate the number of points expected, so candidates are unlikely to get 5 marks, for example, when they give a single undeveloped statement. Likewise a 3-mark question should get an answer that takes half the time and lineage than a 6-mark question. For instance, answers to **Question 4(b)** should have been slightly more than half the length of answers to **Question 4(c)**.

Candidates should read the whole question before answering it, as often they answered the next part of the question in a previous response. For example, many explained the relative success of the population policy in **Question 4(b)** and then repeated this in **Question 4(c)**.

Many candidates struggled with **Section B** questions with often careless or inexact reading of the demands of the question. Candidates still need to appreciate that the last part of **Section B** answers are worth 25% of the total mark and is often the key discriminator, being an evaluation, so they should leave sufficient time to do themselves justice.

Candidates should appreciate that where a question asks for two aspects (**Question 1(c)**) and they give more than two, the best two will be credited. It is not good practice to do more than the number asked for and should not be encouraged as it wastes time.

Clearly some candidates did not fully appreciate the meaning of some of the technical terms used in the questions. Some candidates did not understand the meaning of world city in **Question 3(c)**, did not focus on natural increase in **Question 4(a)**, and in **Question 5(a)** interpreted 'intra-urban' to mean between urban centres.

Comments on specific questions

Section A

Question 1

- (a) (i) Correctly answered by the vast majority of candidates.
- (a) (ii) Correctly answered by the vast majority of candidates.

- (b) Most candidates correctly identified the three elements of the trend, but weaker answers did not support these observations with data from the figure. For example, compare:

‘It fell from 1970 to 1990 then levelled out to 2020 but is predicted to rise from 2020 onwards.’

with the more effective:

‘It was at 120 in 1970 but fell steeply to 54 in 1990. It then kept steady at around 54 to 52 between 1990 and 2020. It is then predicted to rise sharply from 52 in 2020 to 72 in 2030.’

- (c) The focus of this question is on explanation, but many candidates described two appropriate issues without really explaining why they were issues or how they linked to an ageing population. For example, compare:

‘One issue is the lack of labour so industry declines. Also the government needs to spend more on providing extra health care facilities for the elderly.’

with:

‘With an ageing population there are fewer young people to work in industries that need strength or innovative ideas so the elderly have to work for longer or migrants have to be attracted to fill these jobs, e.g. as in Japan. As more elderly tend to have poorer health the government will need to spend more of its income on providing more health and care facilities or increase taxation, e.g. UK.’

Question 2

- (a) Correctly answered by the vast majority of candidates.

- (b) The element of comparison was key. Many candidates simply listed the level of remittances in the various districts rather than comparing overall impact. More effective answers pointed out there was insufficient evidence to judge the level of impact:

‘As we are not told the nature of the districts nor the number of people living there it is difficult to compare the level of impact, e.g. Imo East might have few people living there so contributing little to the remittances going into Imo state overall.’

- (c) The focus here was on the role of push and pull factors. Few candidates explained the basics: that push factors were repelling people from rural areas and pull factors were attracting them to urban areas. It is the combination of the push and pull that explains such a directional migration. Most candidates gave exhaustive lists of push and pull factors, sometimes repeating them as opposites without specifically linking them to how they cause rural-urban migration. Candidates should be encouraged to be more specific about push/pull factors. This could include being specific about what part of the standard of living/quality of life or infrastructure was a push or pull factor.

Question 3

- (a) Correctly answered by the vast majority of candidates.

- (b) This was a two-aspect question but few candidates appreciated the necessity to cover both aspects. Most candidates either described the direction and width of the flows or outlined the resulting hierarchy. The latter term seemed to confuse many candidates, although some candidates did recognise the caption at the bottom of **Fig. 3.1** as helpful:

‘Clearly New York is the top of the hierarchy with links to all 11 cities. Then comes Los Angeles with links to 5 cities. At the bottom of the hierarchy are Atlanta and Minneapolis with only one link each – to New York.’

- (c) Candidates seemed to struggle with this question. The notion of what a world city is was not understood by many candidates and they resorted to describing the economic pulls of large urban areas or failed to consider the ‘economic factors’ by considering the key political and cultural factors that determine a world city.

Section B

Candidates often seemed to choose their question based on the nature of part (a) rather than reading all parts of the question. Too frequently effective parts (a) and (b) were let down by a weak part (c) where the candidate did not fully appreciate the wording of the question. Very few candidates attempted **Question 6**.

Question 4

- (a) (i) Too many candidates failed to consider the need to describe the variation in natural increase and focused instead on the relative rates of births and deaths. Others described population increase which is not the same as natural increase. Many included supportive diagrams but then did not annotate them effectively or were confused by the two extremes, seeing both Stage 1 and Stage 5 as periods of high growth in natural increase. Some gave diagrams of the model but then gave answers such as:

'Stage 1 – fluctuating
Stage 2 – positive
etc.'

Far more was needed on the variation than just positive (and negative for Stage 5 if included).

- (ii) Clearly one approach would be to explain why it is difficult to control birth rates and why it is difficult to control death rates so impacting on the ability to change natural increase rates. Most candidates focused on reasons why birth rates are difficult to reduce, offering comment on tradition, the expense of contraceptives or the need for a high birth rate to offset high infant mortality. Others were more practical:

'Part of the difficulty stems from the lack of information on the existing situation. It is very difficult to collect accurate data from rural areas where often the population is semi-nomadic or distrust government officials.'

- (b) This question had two elements. Most candidates successfully suggested why the policy was needed – usually based on China (or ageing populations in Japan or Singapore) and reflecting either a need to avoid overpopulation or to increase labour supply, but then offered little detail of the main elements of the policy. More effective answers considered both the incentives and disincentives used:

'China combined the carrot and stick approach. The single child received the carrot of free education and medical treatment but should the family have a second child they would have to pay a child raising fee which could be 2 or 3 times their annual income – the stick.'

- (c) Most candidates seemed to read this question as demanding a critique of the policy, so gave lots of irrelevant material such as the resulting unequal sex balance in China. The expectation was that candidates would be able to quote some data on the changes in natural increase and recognise that these might differ between groups, locations or over time.

An effective answer made the point that:

'There is evidence that natural increase in China would have slowed anyway as the birth rate was falling before the one-child policy was introduced (possibly due to decreasing child mortality rates) and since it has been relaxed there has been little increase in the birth rate so natural increase has remained low.'

Question 5

- (a) Unfortunately, a number of candidates saw this question as relating to inter-urban migration (despite the wording in brackets) so produced irrelevant answers. Others included commuting and tourism which, whilst being valid intra-urban movements, are not migrations. Simply stating where people moved from and moved to is very basic description. More details such as the nature of the migrants and the scale and timing of the migration would have added more detail to the descriptions. Temporal issues were very rarely discussed within the description of intra-urban migration. No explanation was expected and often this was included but gained no credit.

(b) Generally this was well answered with a range of appropriate factors considered usually including comparative wealth, ethnicity, culture, age and political forces, especially land use zoning/planning. There were some interesting historical answers showing the way colonialism and then post-colonial forces created or re-enforced segregation. The key to a successful answer was the need to support these points with detailed exemplification.

(c) Generally this was well answered, although many candidates seemed to repeat material from **Question 2(c)**, i.e. urban pushes and rural pulls. A good range of economic, social, environmental and political factors were considered with some attempt at supportive exemplification and evaluation. More effective answers went beyond the relative disadvantages of urban living and the perceived advantages of the rural idyll to consider enabling factors such as the rise of the internet, improved transport and rising incomes:

'In HICs especially, the increased car ownership and fast road links such as the radial motorways into London mean that workers do not need to live near to their work but can commute so they can afford to move out from the urban area.'

Many answers tended to be a list of factors causing counter-urbanisation without the use of evaluative comments. Greater use of examples that are fully integrated across the answer would help candidates increase their performance on this question.

Question 6

(a) The term 'type' was open to a number of interpretations. Three different types of location for manufacturing were expected. Some candidates seemed confused over the nature of manufacturing and focused on retailing and farming. The command word 'describe' suggests more than just a statement of a location is required. For example, compare:

'Manufacturing can be located at a transport point such as a port.'

with:

'Manufacturing needs good transport location for raw materials to be accessed and finished products to be distributed so is often located near a motorway such as along the M4 corridor in the UK or in or near a port such as manufacturing of soap at Port Sunlight on Merseyside.'

No explanation is expected but exemplification is key.

(b) Most candidates recognised a movement outwards, from urban centres, in terms of the location of manufacturing with explanation linked to costs and availability of large amounts of space. Some candidates considered the changing nature of manufacturing which resulted in changes in location:

'In many HICs manufacturing changed from heavy industry based on local raw materials to more footloose light assembly industries which necessitated a move to sites where communications were ideal for bringing in components from a variety of sources.'

Others considered changes in the number and type of workers, changes in demand and political factors. Again, the depth and detail of the exemplification was very variable.

(c) The question referred to one shanty town, but many candidates were unclear on specific locations. Many simply offered 'Sao Paulo' or 'Mumbai' which is too vague as both cities have a number of shanty towns, often with different challenges.

The majority of candidates who attempted this question offered a good range of challenges, nearly all of which were problems typical of shanty towns, but rarely evaluated their relative importance or suggested this might vary depending on who was making the judgement:

'Age would alter the relative importance of the challenges. The young males may see lack of employment as most important whilst the old, who have grown up in the shanty, may put safety and security as their most important challenge.'

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General comments

The response of candidates was generally encouraging with some very good answers to some questions. All candidates now have to do a resource based question followed by the option of two essay type questions. The resource based questions caused few problems. The only issue with the response to **Question 4(a)** was the interpretation of 'distribution'. Some candidates still see this as describing the wave energy, coast by coast, without offering a general synthesis. The essay type questions all demanded an evaluation or a reasoned argument based on an assessment. Most of these answers would have benefited from a few brief sentences outlining the issues that were being discussed.

Many candidates misinterpreted **Question 5**, answering with respect to differences between high and low tides rather than the substantial effects of sea level changes in the past. Answers to **Question 9** were also problematic. Many answers wrote about a single hazard event rather than a hazardous environment. This offered little scope for a detailed assessment of the question. Hazardous environments and Hot arid and semi-arid environments questions were the most popular. The Tropical environments questions were the least popular and caused some problems for many candidates, especially **Question 2**. The responses to these questions are examined in greater detail later. There were few rubric infringements and only an occasional candidate answered from more than two sections.

The concept of sustainability is still not fully understood, but there were encouraging signs in **Question 12** that the concept is receiving more attention. Most candidates are aware that sustainability has environmental, economic and social strands. However, environmental sustainability is often downplayed. It needs to be remembered that environmental issues cannot be addressed satisfactorily if the physical geography involved is imperfectly understood.

Comments on specific questions

Tropical environments

Question 1

- (a) This was answered well by most candidates but with the occasional answer simply describing the characteristics rather than comparing them.
- (b) Few candidates were able to offer a detailed explanation of the climatic characteristics listed in the table. Many answers concentrated on explaining the temperature differences with reference to the apparent movement of the overhead sun. Explanation of the rainfall characteristics was often very basic with little reference to the seasonality and the influence of the intertropical convergence zone.

Question 2

There were very few answers to this question and they tended to be deficient in several respects. However, some answers were able to differentiate the types of tropical karst and use these differences to explain the role of weathering. It was clear that many candidates would have preferred a question on granite landscapes and there were some answers that tried to explain tropical karst landforms in terms of deep weathering and exhumation. The emphasis in the question was on the role of weathering and other factors in the formation of tropical karst landforms. Although knowledge of the various types of tropical karst was desirable, the emphasis should have been on weathering, especially carbonation. Differences between the types of tropical karst could then be explained with reference to other factors such as limestone rock structure (joints and bedding planes), climate, vegetation and base level changes, especially with respect to tower karst.

Question 3

This was the most popular question in the section. Although there were a few good answers, many answers were very generalised and concentrated on the vegetation adaptations (xerophytic) to the periodic dry season and to pyrophytic adaptations. There was limited reference to actual species or type of vegetation, and few answers recognised that there is a large variation in vegetation in the savanna ecosystem with a transition from humid tropical rainforest to semi-arid ecosystems. This is a transition from wooded savanna to park savanna, shrub savanna and thorn savanna with their associated vegetation characteristics.

Coastal environments

Question 4

- (a) Most candidates were able to gain reasonable marks. The most frequently noted distribution pattern was generally low wave energy on coasts near the equator and higher wave energy towards the higher latitudes. The contrast between east and west coasts was, quite frequently, noted.
- (b) Most candidates were able to describe the differing characteristics of high and low energy waves, with the contrast between swash and wash efficiency. However, there is still confusion about the effect of these different processes on the cross section (profile) of beaches. High energy (destructive) waves, where backwash is the more effective process, decrease the slope of beaches. Low energy (constructive) waves, where swash is a more effective process, build up beaches into a steeper profile.

Question 5

This was the least popular question in this section with a generally weak response. As noted in the general comments, few candidates interpreted sea level changes correctly. The role of sea level change in the formation of coastal landforms was one of the few additions to the syllabus for 2018–2020.

Question 6

This was the most popular question in this section. There were two parts to the question: a description of the characteristics of coastal dunes followed by an assessment of the factors involved in their formation. A sketch cross section of the dunes would have been an excellent means of underpinning the description. Unfortunately, few candidates produced a sketch diagram. The diagrams that were produced were often inaccurate and lacking in detail. Descriptions were often better than the attempt to assess the factors in the formation of the dunes. The colour change from yellow to grey dunes was often noted but with little explanation of the fact that the change in colour was the result of increasing organic content as the dunes developed. The change in pH from highly alkaline to more acid conditions as the dunes and vegetation developed was also omitted.

Hazardous environments

Question 7

- (a) There was a mixed reception to this question. The description of the characteristics of the debris flows and mudflow needed to be based on the features identifiable from the figure. However, whilst the majority of candidates attempted this, many candidates embarked on an explanation, which was not required. This meant that there were, in general, two markedly contrasting answers – those which concentrated on the description of features shown in the figure and those which did not answer the question.
- (b) Although there were elements in the figure that might have helped in answering this question, the question was essentially generic. The reference to the figure was only necessary to identify debris flows, landslides and mudflows which needed assessment in terms of their potential hazardous nature. Thus, their hazardous nature should be assessed in terms of their respective characteristics, such as nature of the materials involved, size, speed of movement, slope angle and possibly frequency. Although some candidates did recognise this need, many did not differentiate between the various types of mass movements and therefore were not able to assess how the hazardous nature varied between them.

Question 8

Most candidates understood what tsunamis are, but few were able to explain their formation in other than very basic terms. Earthquake activity under the sea was mentioned, but the mechanisms by which the tectonic activity produced the initial displacement of the water were not described in any detail. The second part of the question, the extent to which the hazardous impacts of tsunamis may be reduced, was answered more satisfactorily. The tsunami following the 2011 earthquake off the coast of Japan was often used as an example to address this issue, with prediction and preparedness being well discussed.

Question 9

The interpretation of this question was problematic. The syllabus states that candidates must study some of the problems of sustainable management of a hazardous environment based on a case study. There are two elements in this statement: it must be a case study and it must be related to a hazardous environment. Discussion of a single event, such as the eruption of Mount St. Helens, does not constitute a study of a hazardous environment unless there is a more general discussion of the environment. The hazardous environment, in this case, could be the Cascade Range of western North America of which Mount St. Helens is a part. Hurricane Katrina is an indication of the hazardous environment of Gulf Coast North America and is just one example. This means that the discussion of a single event was unlikely to fulfil the requirements of the question.

There needs to be a general discussion of the environment within which specific hazardous events had occurred. The best example of a hazardous environment discussed was the Philippines, which have mass movement, volcanic and tropical cyclone hazards. The question also asked for a single hazardous environment. Many answers discussed several hazardous events across the world. Such answers were relevant if used to assess contrasting levels of prediction and preparedness, but were just separate descriptions with no synthesis. There is detailed guidance on case studies which can be accessed from the Cambridge International School Support Hub.

Hot arid and semi-arid environments

Question 10

- (a) Most candidates were able to obtain good marks on this question, although some candidates were confused by the different total size of the respective areas, rather than concentrating on the respective levels of soil degradation.
- (b) Most candidates were able to offer some explanation to explain the greater level of soil degradation in semi-arid areas. Most answers concentrated on the greater population densities and greater possibilities for overcultivation and therefore soil degradation in semi-arid areas.

Question 11

Most candidates who answered this question were able to explain a variety of landforms in hot arid and semi-arid areas and relate them to the processes involved. There was a greater understanding of landforms created by wind processes than those produced by either water or weathering. However, far too often, answers were basically two separate discussions with little evaluation of the question. In contrast to this, some candidates did suggest that wind was more important in shaping landforms in hot arid areas rather than in semi-arid areas where the role of water could, potentially, be greater.

Question 12

In many cases, it was unclear whether a hot arid or a semi-arid environment was being assessed. This significantly weakened some of the answers. There was also some confusion as to which areas were hot arid or semi-arid. The comments made earlier about case studies apply equally to this question. Answers often mentioned a semi-arid area, such as the Sahel, but then the discussion was very generic and could have related to any semi-arid area and not specifically to the Sahel. The Sahel is an extremely variable area and answers need to be based on more site specific case studies so that the discussion could be evaluated. The question was also about the problems that make sustainable management difficult rather than a detailed account of the solutions to these problems. However, there was usually some implicit understanding of the problems within these answers.

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Key messages

- 1 For essay questions, read the question carefully. Deconstruct the question and plan a response based upon the entirety of the question. There is a common theme that candidates seize upon the first part of the question and they miss or underemphasise the key part which may come towards the end.
- 2 Some candidates express an opening viewpoint about the evaluative element of the question but do not make any concluding remarks.
- 3 Developing the skill of evaluation: this is linked to the two key points above. **Questions 2, 6, 9 and 12** ask candidates to evaluate ways/difficulties/the use of/factors. Evaluation in these questions could include comparing one with another, identifying which has more importance, how the factors influence each other, the complexity of the factors, and so on. This approach was rarely seen and many essays remained at a descriptive level and achieved Level 2.
- 4 For resource based questions and especially **part (a)**, candidates are displaying confidence with their geographical skills.

General comments

Handwriting is largely exemplary which allows the candidates to clearly communicate their ideas and allows the flow of information and ideas to be read by the Examiner. Responses are generally of a suitable length to enable candidates to maintain a contention and to adequately illustrate it with place support and conceptual ideas. Some candidates display a tendency to write essays which are content based and lack some selectivity with reference to the question. The evaluative elements could be worked upon. Some candidates display a sound and detailed knowledge of the examples and case studies which they include. This is frequently aided by the choice of local, regional or national examples which are familiar to the candidate. This gives an authenticity which conveys a sense of place.

The most popular options were Environmental management and Production, location and change.

Comments on specific questions

Production, location and change

Question 1

- (a) This was generally done well with candidates able to make a descriptive point about the distribution of each class, mostly by using compass points as a reference. A small number simply listed each of the states within each category with no reference to location and distribution.
- (b) The majority of candidates showed some awareness of the link between heavy and bulky products and transport costs, but missed the point that the products were of low value. The low value means that the profit margins are small and are further reduced by high transport costs such that production has a spread of locations. In missing the point about low value many candidates contradicted themselves saying location was near both market and raw materials. Stronger candidates distinguished between weight gaining and weight losing industries, and some even quoted the Material Index. Some candidates mentioned other factors such as land, labour, energy, water, transport infrastructure or environmental issues.

Question 2

This was a very popular question with some very good responses. The key message for teaching and learning from this question is to plan a response based upon consideration of all aspects of the question and to pay attention to the demand of essay questions for a strong evaluative element (AO4 12 of the 20 marks). This question did not ask candidates to write all they know about multiple ways which bring about change in agriculture. Better responses not only described ways of increasing productivity but made comment on more than the pros and cons of each way, such as the relative importance of each in terms of increasing productivity from the system. It was perfectly acceptable to base a response on a limited number of ways, following a contention set out in the introduction, for instance that the most important factor is X because this leads to Y and Z which are factors of increased productivity, etc.

On occasion, evaluative comment is stated as on-going comment or at the end of a paragraph or as a summary or in the conclusion. Stronger responses were able to focus on the four aspects of the question: a clearly defined agricultural system (supported with specific locational details), different ways, increasing productivity, and taking an evaluative approach. Stronger responses also developed the basic idea of increased production or output through consideration of factors influencing yields, and they developed ideas about increased productivity in terms of production increasing either per unit area or per unit labour.

Weaker responses adopted an approach of describing many different 'ways', with basic comment on the pros and cons of each and some basic links to production (rather than productivity). In this type of response, the specificity was often quite generalised and the evaluative element basic. Two approaches quite commonly seen were the Green Revolution or Land reform programmes. Candidates with these approaches infrequently focused upon the demands of the question.

Question 3

This was not a popular option and most of the candidates who attempted it found it somewhat challenging. The strength of the response was often dictated by the choice of example. Where an appropriate example was chosen, candidates were able to describe the aims with some evaluative comment on the ambition of these aims and offer an assessment of the effectiveness of the industrial policy for manufacturing. However, in a significant proportion of cases, candidates ignored the link to manufacturing and drifted into discussion about general industrial policy (in some cases using agriculture as an example), or they had a broader discussion about trade policy where industrial policy was often quite a marginal part of the essay. These approaches failed to address the question effectively and generally limited the essay to lower level marks.

There were some good responses using India or Taiwan as case studies. Centres and candidates should take note of the difficulties under exam conditions of complex case studies where there is a historical element to a country's industrial policy. Candidates appear to have difficulty in accurately recounting the stages, so centres may wish to consider the general advice given about case studies that post 1980 is a reasonable cut off point. Again, as for **Question 2**, it may be better to thoroughly address the demands of the question through a more limited coverage.

Environmental management

Question 4

- (a) The majority of candidates were able to identify either increases or decreases in relation to each of the four fuel types and the two dates given. Fewer recognised the fact that the main type changed from fossil fuels to renewables (minus hydro-electric power) or indeed that HEP remained the smallest. Most candidates could read data accurately from the compound graph. Centres should note that with clear lines given with the use of graph paper, accurate data reading is expected. Some candidates misinterpreted the scale: not working out that one square here was two percentage points – not a half – or by not realising that the total was out of 100 percent for each year.

- (b) The majority of responses focused on declining emissions from using less fossil fuels and links to less atmospheric pollution, acid rain and climate change. Where these ideas were expressed effectively, candidates had the basis of a sound answer. Responses were developed further with reference to a reduced need to develop coal mines/oil fields and consequent reduction in land and/or water pollution or a reduction in environmental accidents associated with transporting oil. Some candidates made the rather sophisticated point that since the data was only considering Europe, the global impact may be quite marginal or they noted that abandonment of mining areas might be adding to rather than reducing degradation. A few candidates wrote about the detrimental effect of using fossil fuels, not how the environment impacts may change from using less fossil fuels.

Question 5

Better responses needed to demonstrate understanding of the difference (syllabus paragraph 12.2) between 'one named located scheme to produce electricity' and 'one country's overall electrical energy strategy'. There may be confusion over the terms 'scheme' and 'strategy' for some candidates. Teachers and learners might wish to focus on differences in scale between these two case studies (Key concept 2 in the syllabus). Candidates could, however, have used knowledge about the country's overall electrical energy strategy to assess how far people have different views about the success of the named located scheme. Teachers should also select case studies which enable candidates to answer a range of types of question about the case study. Ulla-Førre in Norway was frequently used and the material presented did not appear to enable candidates to consider the statement in the question that 'People have different views about the scheme's success'.

Candidates who did focus on 'one named located scheme' (often Three Gorges or Kariba) often produced thoughtful answers. On the other hand, there was evidence of a strong response based on a geothermal plant in Iceland. Even though the response was relatively brief, a good mark was achieved because there was a focus on the views of success of different stakeholders. Overall, a major discriminating factor in responses was whether or not there was emphasis on the views of different people about the success of the scheme. Teachers should note the syllabus reference in 'Examples and case studies' to: 'case studies should... allow candidates opportunity to examine the conflicts of interest and viewpoints of different groups of people affected by the... initiative (here located scheme) being studied.'

There were some good responses focused on the Kariba scheme. For some candidates, this was based on the selection of a case study from within their own or a neighbouring country. This is a strategy for selecting examples and case studies which is to be recommended. Candidates were able to use contrasting viewpoints about the planning, aims, construction and early stages of the scheme's operation, and they developed the response further through an accurate chronology moving forward to changed opinions of a more contemporary nature.

Weak responses generally did not plan a response based on the whole question: the statement and the command (Key message 1 above). These responses tended to describe advantages and disadvantages of a multi-purpose scheme of the named located scheme with little reference to the production of electricity.

Question 6

Better responses focused on why issues of water quality are difficult to overcome. They broke the question down into: what are the issues of water quality; why these issues are difficult to overcome; and they made some attempt to evaluate which issues and/or difficulties are the most difficult to overcome. The most common issues seen were based on causes of water pollution, though other issues such as the provision of safe drinking water and water purification enabled better responses to display a wider context. Some developed valid contrasts between rural and urban areas, or between drier and wetter places (sometimes within their own country), with a few considering economic development as a factor. Many candidates displayed a sound knowledge of place examples, and gave some detailed examples and knowledge.

Better responses selected examples carefully in order to make specific points. Less successful responses used too many examples, often repeating ideas, and were characterised by being descriptive and having a more limited focus on why water quality was a problem rather than why it is difficult to overcome. In these responses, the evaluative element was weak with basic comments on aspects of lack of finance such as: cost of chemicals; cheaper to dump waste; lack of education/ignorance; corruption. Very few candidates considered key concepts such as scale (Key concept 2 in the syllabus) and change (Key concept 7 in the syllabus) which would be useful in a question like this. Centres should ensure that the key concepts are embedded into the topics, examples and case studies.

Global interdependence

Some candidates may have been taken by surprise that there was no essay question in this option on tourism. Teachers need to ensure that they cover all aspects of the option and that candidates prepare for all aspects. Tourism was, however, the theme for **Question 7**.

Question 7

- (a) The majority of candidates used Fig. 7.1 effectively to identify the impacts on local society of the tourism activity shown. The most common were the children selling jewellery (positive and negative) and exchange of cultures. Some, however, failed to respond to the idea of 'local society' (Key concept 2 in the syllabus) as expressed in the question or drifted into broader discussion about economic factors or the environmental impact.
- (b) This question was generally done well with a wide range of impacts described. A significant number of candidates made carefully considered observations about the effects of mass tourism on the environment. Where these observations were clearly linked to Fig. 7.1, responses were frequently very impressive. Most referred to various aspects of pollution – land, air and water – while some very good answers referred to the potential impact on coastal and marine ecologies. A few noted that the expansion of tourist facilities would impact on the coastline itself. Less successful responses failed to appreciate that the question asked the candidate to refer to the photograph as a stimulus and wrote very generic answers and/or attempted to write about too many 'ways' without developing the idea that the type of tourism is mass tourism or the risk being degradation.

Question 8

This question was not popular and appeared to challenge candidates particularly because the focus of the question was on 'changes in the global market', which appeared to be not well covered in the resources that centres select to support the option. Candidates seemed to think that the question was about the general factors which influence trade and frequently they described each factor affecting global trade: resource endowment, locational advantage, historical factors, etc., as per the syllabus. Better responses understood what is meant by the global market, could describe changes in the global market and link these to the trade of exporting countries (Key message 1 above). Reference to changes in the global market most seen included: growth of NICs/MICs/BRICs, trade blocs and protectionism. Some candidates successfully developed responses around specific countries which had gone through rapid industrial change (China, India and South Korea were the main examples given) and had consequently changed their pattern of exports. There still appears to be confusion between the role of the WTO, free trade and Fair trade. Centres should consider what the difference is between free trade, fair trade and Fair trade – the latter seemed to be confused for some candidates.

Question 9

There were some thoughtful and well supported responses based on a variety of types of aid, with a clear evaluative element linked to economic and/or social development (environmental or political development were less frequently seen). Some candidates successfully broadened the evaluation by briefly considering other ways to achieve development, with trade commonly seen. Centres should note that such an approach should not, however, form the major part of the response, since an assessment of the use of international aid was the theme of the question. Again, scale (Key concept 2 in the syllabus) was less visible as both a differentiating factor on achieving development and in terms of small scale versus large scale projects or in terms of time scale. Weaker responses usually adopted an approach of describing types of aid with little developed support and not linked to whether the aid led to development or not. These responses were often quite unbalanced towards negative issues such as tied aid, corruption and dependency. There were some sound discussions of the growing influence of Chinese aid to Africa.

Economic transition

Question 10

- (a) There was a mixed response to this question. Most were able to compare the general difference between the top three and the bottom three factors as the former being all governance and regulatory while the latter were all market and infrastructure. Further credit could have been gained by adding up the totals for the top three and bottom three factors as: 47% against 14%, and/or by comparing the relative importance of the top three with the bottom three, with the top three between 15 and 17% while the bottom three are much lower, between 4 and 5%. Neither of these approaches was commonly offered.
- (b) Some candidates noticed the definition of 'general security environment' below the graph and used this to outline a response using real examples to support these responses. Better responses demonstrated an understanding of foreign direct investment as an investment of capital requiring a return in the form of profits and/or dividends to shareholders or interest on loans, and linked this to how aspects of the general security environment might affect these monetary returns or influence other factors of production such as infrastructure, labour or markets.

Question 11

The quality of responses depended on how well candidates understood what HDI is and its strengths and weaknesses as the best way of measuring inequality. Better responses displayed understanding of both strengths and weaknesses and were able to compare HDI with other measures of inequality. Few candidates displayed knowledge of positive aspects of the HDI such as: it is calculated on a scale of 0 to 1, combines both social and economic measures (some focus on people), is agreed by the United Nations which publishes a report each year (the Human Development report which includes HDI values globally), and can be tracked and compared easily. Weaker responses were generally quite descriptive and the comparative, evaluative part of the question was somewhat overlooked.

Question 12

Responses based on a case study, often with some detailed knowledge of the regional geography of the chosen country, and displaying a range of factors both physical and human which were clearly linked to limiting development of the periphery were largely successful. References to the conceptual background, the Core-Periphery, were valid but candidates in general know more about the core and less about the periphery and are not aware that processes such as backwash have a limiting effect on the development of the periphery. The quality of a response was largely dictated by the level of detail and the extent to which a range of factors was considered. The idea of considering the relative importance of different factors in order to develop the evaluative element was largely overlooked and was therefore a differentiating factor (Key message 2 above). In some cases, the examples used were very simplistic. This was especially true of responses referring to the periphery of the UK.