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FOREWORD

This booklet contains reports written by Examiners on the work of candidates in certain papers. **Its contents are primarily for the information of the subject teachers concerned**.

GEOGRAPHY

GCE Advanced Level and GCE Advanced Subsidiary Level

> **Paper 9696/01**
> **Core Geography**

General comments

Most candidates appear to have found this paper accessible and were able to attempt the required number of questions in each of the sections. There were very few rubric errors and most candidates were able to apportion their time sensibly between the questions in each section of the paper. There were fewer instances of candidates missing out questions in the compulsory *Section A* of the paper, although this was still evident in a few Centres, notably some in Brunei. Candidates now realise that even on subjects upon which they do not feel confident, there is the possibility of earning some marks by the general application of their geographic skills to the resource material that is provided for each of these questions. A problem remains for many in that the instructions in the question are ignored in the answer. Thus 'describe' is often interpreted to mean 'explain' or, in some cases, the resource is virtually ignored in favour of a general account of the topic.

The redrawing of either diagrams (as in **Question 2**) or listing of all data (as in **Question 3**) is a waste of time and without further annotation or selection receives no credit.

Candidates' preparation of syllabus topics within both sections of the paper remain very uneven. Thus hydrology and fluvial geomorphology appears better understood than either atmosphere and weather or rocks and weathering. Similarly, population change is generally well researched, whilst settlement dynamics remains far less understood. This is reflected in the choice of the questions attempted in *Sections B* and *C* as well as the level of performance in individual questions in *Section A*. As core elements within the geography syllabus it is important that all aspects are afforded equal attention.

Many candidates could enhance their performance by judicious planning of their responses. Too often they appear to plunge straight into an answer without sorting out the material between the different sections of the question. This can lead, at best, to unnecessary repetition or, at worse, to complete irrelevance. In the former case this was most evident between **(b)** and **(c)** in **Question 1** and in the latter in **Question 4 (c)** where 'push' effects dominated some answers. Lack of planning was exhibited in the imbalance between the amount of attention afforded to different parts of questions, which was unrelated to the marks available. Thus in **Question 8 (a)(ii)** long-winded responses extended far beyond that required as were the long, rambling and generally unsorted material that was included in **Question 8 (c)** and **Question 9 (c)**.

Throughout the paper candidates rarely took the opportunities given for the employment of supportive case study or exemplar evidence.

Comments on specific questions

Section A

Question 1

The vast majority correctly identified lag time in part **(a)** of the question. Many, however, were less successful in utilising appropriate terminology to describe the differences in discharge. Comparison of lag times, peak discharge, rising and falling limbs of the discharge were required in **(b)**. Some candidates attempted to add explanations which were only required in **(c)**. The explanations advanced in **(c)** generally correctly identified the loss of interception storage, but fewer were able to relate this to the subsequent increase in overland flow or developed its impact upon infiltration and sub-surface flows.

Question 2

(a) Many descriptions merely identified the onshore/offshore breeze and failed to deal with the *circulation* of air.

(b) Better answers were able to describe the different thermal capacities of land and sea and the impact this had upon the creation of thermal pressure cells which affected the circulation and direction of surface breezes. It was possible to achieve full marks without resort to an explanation of pressure cells by accurately describing uplift and the sinking of air.

(c) Candidates had some difficulty in describing *local* effects such as the amelioration of temperatures. Instead they produced continental or even global impacts.

Question 3

(a) Apart from those who ignored the term 'decade' and gave single years, most answers correctly identified the two decades.

(b) This produced some very confused and ill planned responses. Many failed to identify *trends* in the data and merely gave a blow by blow description of all the data provided. This produced lengthy and often largely irrelevant answers.

(c) Most candidates were able to assemble two effects of an ageing population and many wasted time by providing many more. Answers were given greater focus by the use of two concrete examples which made the assessment of their relative significance clearer.

Question 4

(a) Largely correctly identified.

(b) Descriptions were frequently vague and inaccurate. This was largely due to the inability to employ appropriate geographical terminology for spatial patterns such as cardinal points, dispersed, concentrated, groupings, etc.

(c) The economic pull factors were poorly described with relatively few answers that were able to develop much beyond the possibility of better paid jobs. Few made any attempt to distinguish between individual or family responses, gender or age differences or the generation of wrong information. Some weaker responses drifted into accounts of rural push factors.

Question 5

Many candidates appeared to have experienced difficulty in both the description and interpretation of this model. This was compounded by a tendency to overlook the *central* population densities that were to be described in **(a)** and the misunderstanding of the meaning of population *density gradient* in **(b)**. In **(c)** many answers concentrated exclusively on the negative externalities of pollution and congestion in city centres whilst the better answers looked at the relative price of land as expressed by the operation of bid rent theory, the growth of out of town shopping and business centres and the development of home based working due to modern communication improvements and facilities.

Section B

Question 6

Hydrology and fluvial geomorphology

(a)   The terms water table and levée as well as the description of a delta were often imprecise. Good answers often employed annotated diagrams to demonstrate these features. Common failings were the confusion of water tables with soil moisture, the confusion of levées with bluffs and the distribution and nature of sediment within deltas.

(b)   Most candidates knew the main methods by which rivers transport loads and were able to produce reasonable diagrams to illustrate the methods. The link between particle size and velocity was not always made in an effective manner.

(c)   Whilst many answers produced outline diagrams showing meandering and braided channels, the explanations of their production were largely unconvincing. Particular confusion was evident over the nature and development of braiding and the operation of pool and riffle sequences in meandering channels.

Question 7

Atmosphere and weather

The least popular of the questions in this section, but one that was answered very well by a few Centres.

(a)(i)   Candidates tended either to know the definition and achieve full marks or had little idea at all. At times the definition lacked reference to temperature.

  (ii)   Better answers reflected the significance of relative humidity in gauging the humidity of air masses and their moisture holding capacity in order to assess the chances of precipitation.

(b)(i)   Full marks could be obtained by a simple diagram indicating temperature and height with the DALR and SALR situated to the right of the ELR.

  (ii)   Many gave a description of cooling and condensation after the ascent of air rather than the initial causes of ascent through convection heating.

(c)   Many accounts tended to list factors that could affect temperatures (e.g. altitude, ocean/land interface, insolation, etc.) dealing with them on a local rather than a global scale. Surprisingly, latitude was often overlooked as were air movements, winds and ocean currents.

Question 8

Rocks and weathering

Quite popular with some very good answers, particularly from some Centres in Trinidad and Tobago.

(a)(i)   Most attempted to describe the development of salt crystals due to evaporation and pressure release due to the removal of overburden. This was generally successfully achieved.

  (ii)   Fewer answers were able to describe the effects of these processes. Surface scaling due to crystal growth was rarely mentioned although more answers recorded the tensional stresses and sheet jointing related to pressure release.

(b)   Hydrolysis was mentioned by many although its action on granites was not well understood. Some excellent explanations were given of carbonation illustrated by reference to the Caribbean environment. Many, however, confuse hydrolysis with hydration and see carbonation as simple solution.

(c)   There were many ill organised and lengthy descriptions of plate tectonics and plate margins without ever pointing to the differences between convergent and divergent plate margins. The better answers utilised well annotated diagrams to highlight the nature of the plate margins, the processes involved and some of the resultant landforms.

Section C

Question 9

Population change

This was attempted by the vast majority of candidates. Clearly this is the area of the syllabus upon which most candidates concentrate.

(a)(i)   A surprisingly large number of definitions lacked precision. There was some confusion of fertility with fecundity. Either the average number of children each woman in a population bears or the number of births in a year per 1000 women of childbearing age were acceptable definitions.

(ii)   Virtually all managed to correctly identify two countries although the significance of the fertility rate was not always accurately quoted.

(b)   Most candidates were able to identify some relevant factors affecting fertility rates in MEDCs. Many answers were somewhat formulaic with a repetition of the same few criteria (career minded women, the importance of education and the availability of contraception). There were some well written responses that produced some useful exemplification.

(c)   There were some interesting and well written responses that called upon local observation and utilised good examples. These, however, were in a minority, as most answers lacked both structure and forethought. Most were aware of the some of the impacts of traditional attitudes upon fertility rates but only the better answers were able to indicate the extent to which their change might bring about a reduction in fertility rates. The answers often illustrated a lack of planning and the organisation and presentation of what was often well informed material.

Settlement dynamics

Question 10

Relatively few answers, which often lacked quality.

(a)   Whilst there was a reasonable level of understanding of the term primate city, few candidates produced a convincing diagram of a settlement hierarchy dominated by a primate city.

(b)   In most cases the examples chosen were acceptable, but the reasons for primacy were poorly explained. Social, economic and historical reasons were rarely explored. More commonly, an outline description of the city and town hierarchy (thus repeating earlier material) was given.

(c)   There were some successful answers that explored the success of policies such as green belts, decentralisation and the establishment of alternative growth poles. Most answers tended to describe such policies without exemplification or any attempt to evaluate their level of success.

Question 11

Very few answers were received to this question.

(a)   Of the answers seen by Examiners, most displayed some knowledge of the term bid rent as it relates to urban land-use. Similarly, most could draw a correct outline of a bid rent diagram, but the labelling was often inaccurate and suggested little understanding of the impact upon the location of manufacturing industry.

(b)   Generally very poorly answered as few candidates were able to draw upon any example of the character and location of manufacturing industry within a city. It was anticipated that answers would reflect historic locations in town centres and around waterfronts or more recent innovations such as industrial estates, EPZs or route nodes.

(c)   Responses were very limited in both the nature of accessibility and in terms of the location of manufacturing industry. Candidates appeared hampered by a lack of any case study or exemplar material upon which to draw. Answers resorted to general comments concerning new road networks, but were unable to link this to either the type or location of any manufacturing industry.

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Paper 9696/02
Physical Geography
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General comments

Candidates appear to have responded to this paper in a very similar manner as in previous years. There was some evidence of an improvement at the top end with some very accomplished scripts displaying exceptional grasp of physical processes and an ability to illustrate them by reference to well worked local case studies. Performance between Centres remains very variable. Some Centres, notably some in Trinidad and Tobago and Tenerife produced a lot of good – and occasionally exceptional – work. Brunei Centres are displaying some improvement but continue to produce a lot of lightweight responses. Centres in Zimbabwe are far less uniform than in the past, although some candidates produced high class work.

It is becoming increasingly evident that Centres are opting to concentrate on particular areas within the syllabus. Thus coastal topics and hazardous environments are increasing in popularity at the expense of arid and tropical environments. The performance of candidates in the different optional areas, however, has remained the same as in the past. It might not always be an advantage to candidates to concentrate upon environments in which they have little opportunity for local study.

Many candidates continue to fail to fully exploit the resource material provided in questions. The information the resources contain, if studied carefully can lead candidates in the direction which the questions require. On many occasions, however, the resource was largely ignored, such as in the cases of coral reefs in **Question 4** or the links between climate and desert locations in **Question 8**.

There were many well written accounts and the standards of English usage remains high. There are some welcome indications that more candidates are planning their responses, before embarking upon their answers. Certainly, there seemed little problem with time apportionment or in terms of rubric infringements.

Comments on specific questions

Tropical environments

Question 1

Generally not popular although more commonly answered by Centres in Africa and South-East Asia.

(a) Some excellent descriptions and explanations of tropical humid and seasonally humid climates were given. Even weaker answers were able to cite appropriate statistics reflecting these regimes, even if the explanation was limited. Candidates were less assured with tropical monsoon climates. Both the descriptions and the explanations tended to be vague and often lacked any identification of areas within such climatic regimes.

(b) Most candidates selected the Tropical Rainforest and many of the weaker answers were provided by those who wrote general accounts of the human exploitation and destruction of the biome. Credit was achieved by relating clearance and habitat loss to soil degradation and erosion. Little explanation was afforded in these accounts. Better answers concentrated on the effect of human activities upon the natural processes. They explained the disruption to nutrient flows and illustrating these with the nature of secondary vegetation. A more effective use of Gershmel diagrams could have added to these answers. Few chose savannah environments, but when selected these were often well answered, with good use of case studies.

Question 2

Not popular and answered with limited success.

(a)   The diagram was not effectively used by most answering this question. Many merely wrote about slash and burn within the Tropical rainforest. Others, whilst linking clearance with loss of soil fertility, failed to note the impact of the increased frequency of clearance consequent upon population increase. Thus no mention was made of fallow periods, the re-growth of secondary forest and a possibility of some maintenance of fertility if sufficient time was allowed.

(b)   Weaker answers were those that merely listed all weathering processes from freeze-thaw to thermal fracture. Descriptions of the processes were limited or, in the case of chemical weathering, lacking altogether. Better answers displayed an appreciation of the significance of high temperatures and high rainfall and were able to give clear accounts of hydrolysis and carbonation. Most answers tended to concentrate upon granite and deep weathering, although explanation of the exhumation of the basal weathering surface and resultant landforms was very limited. Karst landforms were occasionally described but few references appeared to any form of Tropical Karst.

Coastal environments

Question 3

Very popular, but frequently answered with only limited success.

(a)   Constructive and destructive waves were well described as was the movement of sediment up and down beaches. The weakness in most answers was the inability to relate this to the shape of beaches. Descriptions of beach profiles frequently failed to match what was shown in the diagrams and contained many contradictions and confusions, such as 'building up a beach to produce a gentle profile' and vice-versa. Better answers were able to accurately describe or draw beach profiles and included the work of longshore drift although they often did not demonstrate its effect on the plan shape of beaches.

(b)(i)   The processes of marine erosion were generally well known and confidently explained.

  (ii)   The weakness of many answers was the failure to address any geological features whatsoever. Even those that did mention rock type at all got little further than describing them as 'hard' or 'soft'. Many did include subaerial processes but often merely described general weathering processes with no indication of how they might affect rocky coasts. The effects of human activities loomed large but again were inadequately linked to rocky coasts. There were some good answers which demonstrated the significance of both lithology and structure, e.g. how dip could influence cliff profiles or strike affect concordant and discordant coasts. These were evidenced by useful examples. Overall, however, the answers were very disappointing.

Question 4

Very popular, particularly with island Centres, which, on occasion, utilised some excellent local examples in part **(b)**.

(a)   Usually the weakest part of the answer. Poor use was made of the diagram as many candidates gave general and vague descriptions of types of coral reef, including the Great Barrier Reef. Explanations of the theory were similarly lacking in either precision or detail. Most recognised the theory as that of Darwin, but few developed the significance of coral growth to keep pace with subsidence in order to maintain adequate light and temperatures. Similarly lacking was any mention of the seaward growth of coral to have clear water free from lagoon silt and fresh water.

(b)   The more successful part of most answers. Many answers concerned erosional threats to particular coastlines such as Hastings to Petts Level or the Holderness coastline. These 'textbook' examples were described with varying degrees of accuracy, although attempts at evaluating the actions taken were generally limited. It was pleasing to read some examples of coastlines drawn from 'home' areas. These often contained accurate maps and diagrams and evaluation, even if some lacked detail. As has been the case in past examinations, the impact of pollution and tourism on coastal environments formed the focus of some answers. Whilst this is an acceptable approach, rarely was there anything other than a very superficial account with no evaluation and the remedial actions limited to prohibition.

Hazardous environments

Question 5

The most popular choice of option topic.

(a)   Candidates were generally better in describing what needed to be investigated for the prediction of particular hazards than they were at describing the methods by which such predictions might be realised. Thus tremors, in the case of earthquakes, bulging and emissions in volcanoes, cloud and pressure patterns for hurricanes. The technology that could be used such as seismometers, tiltmeters, strainmeters satellites, radar, photography, etc. were little understood. Some were reduced to the activities of animals, birds and fishes as the sole means of prediction.

(b)   There were some excellent accounts of the hazards consequent upon both tropical storms and tornadoes, although weaker answers made no distinction between them. Some answers concentrated too heavily on the damage element and not on the nature of the hazard that caused it. Thus flooding, landslides, disease and crop destruction were detailed with little mention of the rainfall, high winds, storm surges that brought them about. There were many good answers, some of which were undoubtedly drawn from personal observation.

Question 6

A very popular question, but one that yielded a considerable range in the quality of responses.

(a)   Most appreciated the significance of plate boundaries in the global distribution of volcanoes. There was, however, a sharp distinction between those who provided a clear explanation illustrated by good diagrams and comprehensive exemplification and those that provided unrealistic diagrams and no exemplification. Weaker accounts confused constructive margins with the Pacific rim and placed Pinatabu in the mid-Atlantic. Better answers also gave explanations of hot spot activity.

(b)   Good answers utilised the diagram to structure and lead into their responses. Thus they were able to describe the nature of lava flows, ash falls and pyroclastic flows, often illustrating their answers with creditable examples illustrating the causes of the hazards related to these features. Weaker answers ignored the diagram and gave general accounts of the hazardous nature of volcanic activity failing to demonstrate how and why different materials posed different hazards. There were a number of excellent responses to this question.

Arid environments

Question 7

Answered by relatively few Centres.

(a)   Some answers covered a wide range of dune types but more commonly barchans and seif dunes formed the main substance of the response. Better answers produced accurate descriptions, including scale and were accompanied by competent and realistic diagrams. Many explanations, however, were highly garbled and were based upon diagrams showing wind flows in the wrong direction.

(b)   Many answers concerned themselves solely with landforms derived essentially from wind abrasion. Thus dreikanter, pedestal rocks, yardangs and zeugans were described in some detail. Water eroded landforms were often conspicuous by there absence. Candidates who did include such features as wadis and landforms of the desert piedmont often did so in a superficial and indiscriminate manner. Only relatively few of the better responses attempted to tackle the extent to which landform formation could be explained by processes that are operating today.

Question 8

(a)   The diagram seems to have aided many candidates in the structuring of their answer, such that the overall level of response was good. Weaker answers provided little explanation e.g. as to how cold ocean currents can cause aridity. The operation of the Hadley cell in relationship to the distribution of deserts was generally well understood. Many candidates were able to refer to deserts by name, which, although not required, certainly added to the clarity of their response.

(b)   As has been the case in the past, knowledge of soils in arid areas is extremely limited. Some Centres dealt with this part of the question in a very competent manner, but they formed the minority. Desert vegetation is better understood and many candidates were able to describe the adaptations to aridity found in xerophytes and phreatophytes. Many answers could only make vague references to nomadism in terms of human activities, although there were some excellent answers that employed apposite case studies and well chosen examples.

Paper 9696/03

Human Geography

General comments

Performance in this examination was broadly similar to that in previous May/June sessions. Although the question paper remains innovative in the resources used, for instance including in Table 1 the results of questionnaire surveys for **Question 9**, the questions set were of a broadly similar character. One Examiner described the distinctive demand as 'using geographical knowledge to answer questions which had an unexpected slant'.

The full mark range was used in assessing responses. This ranged from single figures for fragments from a few candidates who lacked the time, ability or will to respond, to totals of over 40 marks out of 50, for outstanding performance where little more could be expected in the time allowed under examination conditions. There were many good scripts which attest to teachers' sound input, firm preparation of candidates for the type of questions and candidates' careful and well-developed responses. Examiners noted that good candidates often did not achieve very good marks in parts **(b)** or reach Level 3 because of the limitations of the assessment offered. Teachers may do well to give more time and attention both to the vocabulary of assessment and to skills of assessment for extended writing.

Examiners noted that, in a lot of cases, the approach taken by candidates centred on the recall of acquired knowledge rather than the needs of the actual question. This was, for instance, notable in relation to **Question 12 (b)** about a degraded environment where the Level 1 descriptor, covering answers scoring 0-6 marks out of a total of 15, actually begins, 'Struggle to use the example known in the manner required'. In other places candidates seemed to fail to recognise the direction given by the question, or had faulty knowledge of the terms involved. So, for instance, in **Question 11 (b)** about energy and the environment, the word 'local' was often missed, so that global impacts such as the greenhouse effect were included, and 'fossil fuels' was taken incorrectly to include fuel wood and nuclear energy.

For the average to below average candidate, difficulties of expression often clouded the points being made. Although credit was always given for the geography involved, it was not possible for this to achieve many marks because of limitations of vocabulary, clarity and depth.

Examiners observed that, whilst the understanding of most key terms and concepts was firm, many candidates attempting **Question 12** lacked an adequate grasp of the term 'conflicts of interest' for **(b)** and interpreted it simply as conflicts. A conflict of interest occurs where two parties, either individuals or groups of people, have different and opposing views, needs, intentions, etc. in relation to a situation. So, for example, in the Amazonian rainforest, environmentalists may want to see the environment protected but logging companies want to fell trees without restriction. In this case 'green' interests and conservation conflict with the profit motive, long-term interests with short-term ones, and global interests with a local one.

Amongst the four Options, *Environmental management* and *Global interdependence* were the most popular, with *Production, location and change* a strong third. Only *Economic transition* attracts few Centres, but it does provide valuable opportunities to consider globalisation and to synthesise material both from the other topics and from Paper 1, with its content of *Population dynamics* and *Settlement change*.

There were very few rubric errors, far fewer than 1%. Whilst some candidates did not understand the requirement to answer two questions and attempted three or four, the more serious error was to attempt two questions from the same optional topic, as in that case only the better mark could count.

Whilst a number of the questions did not lend themselves to offering annotated maps or diagrams in response, it was encouraging to see candidates doing so in where it was appropriate. For example, a location map to support **Question 10 (b)** or for **Question 16 (a)**, the creative and time-saving redrawing and labelling of Fig. 10 to demonstrate the upward circle a core region may experience.

Comments on specific questions

Production, location and change

The two questions were of approximately equal popularity. Both the survey results in Table 1 for **Question 9** and Fig. 6 for **Question 10**, an adaptation of the spatial margins to profitability, were unfamiliar to candidates and required interpretation using geographical understanding.

Question 9

(a)   An effective response required some understanding of irrigation in agriculture and an appreciation of gathering information by field survey.

   (i)   Candidates found it easier to identify economic factors correctly, than physical factors. Most scored only one of the two marks available, as a consequence. In some cases factors which were neither physical nor economic so not relevant were chosen, such as 'Lack of co-ordination between government departments'.

   (ii)   Most candidates recognised that the distance questions were numbered 13-17 in Table 1. Many found it hard to interpret correctly what 'Yes' and 'No' answers and the blanks meant, however. Common mistakes were to miss the aspect of assessment in the question, 'How important ..?' by rewriting the survey results descriptively or to respond from knowledge, after von Thünen, perhaps, rather than the evidence given.

   (iii)   Responses were sound to good, although many candidates developed just one aspect of a potentially broad scene, for instance physical factors or details of the irrigation project itself. It was rare to find further information about the survey itself required, such as the size of sample. Weaker candidates tended to list points without making their meaning clear.

(b)   A candidate needed to understand debt and indebtedness at, at least one scale, either that of the individual producer or the state (government), demonstrate knowledge of increasing food production in one or more countries and offer an assessment of this and perhaps other obstacles. Weaker candidates tended to explain the debt mechanism and associated poverty trap for the individual peasant farmer and locate it vaguely in India or a country called 'Africa'. Several confused debt with loans or with simple poverty and produced responses of limited relevance. More generally candidates tended to give little detail of food production, digress into the need for and costs of food imports or agree simply with the question rather than provide a true assessment. There were some good answers on the situation in the home country, involving actual data support on levels of debt and naming agricultural systems or products. There were also some effective treatments of the Green Revolution in India with respect to previous debt and consequential debt. Some of the best assessments seen considered debt as an obstacle relatively against other obstacles to increasing food production such as climatic hazards, soil impoverishment, land tenure or political instability. Some perceptive responses considered pressure from indebtedness to produce cash crops for export rather than food crops.

Question 10

(a) Examiners were quite impressed with the manner in which Fig. 6 was handled by candidates.

   (i) Most candidates understood that the shaded area showed profits but not all explained this to achieve both the available marks.

   (ii) Candidates found describing the cost and revenue lines difficult. Although most recognised that revenue is constant, few noted the low cost production zone as an anomaly and many used terms such as 'increasing space' or 'fluctuating' unsuitably in attempting to describe costs. For these reasons, and others, the comparison offered was often limited.

   (iii) This was answered well, with a range of possible reasons made. In all cases unseen factors operate to lower the costs for the manufacturing or service company. Government policies and agglomeration economies were readily recognised and often explained well, sometimes with exemplar support. Other possible reasons included a cheap labour pool or where transport costs of materials and/or products could be minimised for different reasons.

(b) Agglomeration is essentially the concentration of industries in close proximity. Although this may be associated with an industrial estate or export processing zone (EPZ) location, it also occurs naturally without government intervention.   A few candidates confused agglomeration with amalgamation. Generally candidates recognised the advantages of industrial agglomeration; such as lowered costs, linkages, increased bargaining power and interaction with other companies, rather better than the disadvantages; notably rising costs, increased competition and negative environmental externalities such as pollution and congestion. As such, it was the disadvantages content which distinguished better answers. Higher quality responses tended to recognise broad similarities and exceptions, to be well organised and to offer reasonably detailed exemplar support. So for instance in Level 1 there might be no examples, a generic example such as petrochemicals or a named country, such as Trinidad. In Level 2, the example of the Point Lisas Industrial Estate might be given with a locational map and some generic example of linkage(s) there. In Level 3 there might be named companies at Point Lisas and detailed linkages contrasted with an example of agglomeration from elsewhere in the world such as the Ruhr, Germany, or Silicon Valley, USA. A few candidates misinterpreted the question to mean a change of location away from an agglomeration, but could still achieve some marks.

Environmental management

Examiners noted that candidates made good use of the figures and table provided as resources for these questions. No knowledge of either Mexico for **Question 11** or Brazil for **Question 12** was expected and, whilst country-specific material was creditable, candidates could achieve all the marks without having studied either one.

Question 11

(a) This was answered soundly by most and very well indeed by some. Candidates distinguished reasons in up to four different dimensions: physical, such as poor accessibility to sites or wind's unreliability; economic, such as the major issues of finance, technology and expertise/skills for any LEDC; social, such as objections on the basis of noise or people's preference for traditional fuels; and political, such as the lack of will, the existence of other government priorities or corruption. Whilst some reasons were clearly of greater potential significance than others, a good answer built up a variety of possible reasons. Better answers showed some analysis and judgement, for instance of cost/benefit in relation to market potential, or, perhaps, the possible negative impact on tourism of coastal installations of wind turbines. Weaker answers tended to be brief and offer few reasons, or sometimes just one (usually finance) or major on minor considerations such as disruption to TV reception.

(b) Responses were disappointing generally as candidates did not focus appropriately on the word 'local' or support their work with suitable located examples of environmental impacts. Even better candidates provided unbalanced accounts, maybe of the fuels gas and oil but not coal, or of their use, by combustion, but not their production. Top quality responses distinguished local impacts of even global consequences, such as the flooding of low-lying coasts and deltas because of rising sea levels caused by global warming and examined acid rain, as a major impact, in some detail rather than just naming it and offering exemplification at the scale of Europe only.

Question 12

(a)(i) Few candidates could offer a sufficiently distinctive definition of deforestation to achieve both marks. Many offered 'soft' definitions such as 'cutting down trees' or diverged into lists of possible purposes for deforested areas. *Deforestation* is the total deliberate removal or clearance of forest/trees by cutting and/or burning at rates faster than natural regeneration or without replanting.

(ii) There were many full responses, identifying Mata Grosso and Amapá correctly and giving data support from Table 2. Common errors were to identify the two states but not support that with data, or to identify more than one state for each, especially Tocantins with Amapá. What was actually needed was the statistical discrimination to recognise that although Amapá's figures for logging are not quite the lowest, Tocantins's are, the zero deforestation recorded makes Amapá undoubtedly 'the least affected' state.

(iii) Most candidates could identify one or two possible reasons for the variation in the number of logging centres in the different states, often focused on transport and accessibility issues. Only the more perceptive could develop a full answer of three valid reasons or more, perhaps including variation in state laws and protective measures or the incidence of high quality and rare types of tree within the forest.

(b) The majority of candidates had no difficulty identifying and describing a degraded environment but the discussion of attitudes of the different groups of people was often vague or brief. Assessment Objective 4.4 of the syllabus is, 'analyse the viewpoints of different groups of people and identify conflicts of interest', something to which the topic of environmental management lends itself. Examiners noted with pleasure the rich diversity of degraded environments that had been studied, both urban and rural, terrestrial and marine, for instance coral reefs and beach resorts. It was legitimate to take a rainforest environment, even Amazonia, despite the nature of part **(a)** as long as it had been studied. Some weak candidates appeared to attempt to answer **(b)** using the resources supplied for **(a)**, which was not productive. Higher quality responses most often used a local example from the home country, of which the candidate may have had personal experience, maybe through field work or a visit, and which were more readily understandable than more distant and cross-cultural cases. The best responses identified several groups of people, even breaking down one group such as 'the residents' or 'the government' into sub-groups holding different views and explored at least one conflict of interest robustly. More often than not it was the fundamental conflict of interest in much environmental management between conservation and development.

Global interdependence

As usual, **Question 14** on tourism was the much more popular choice than **Question 13**. **Question 13** did, however offer the prepared candidate the opportunity in part **(b)** to synthesise their knowledge and write, for once, on both trade and tourism. Many candidates clearly wanted a rather different kind of question on tourism and insisted on reproducing that material anyway, for instance, the Butler model, without applying it to the actual demand of sustainability.

Question 13

(a)(i) The term *locational advantage* was understood suitably, although there was some confusion if the context of manufacturing industry was taken, rather than that of trade.

(ii) Most candidates were able to explain the operation of locational advantage in international trade, but responses tended to be limited and insufficiently developed, focusing on strategic location and a country's proximity or access to trading partners, e.g. Singapore. Some were, however, also able to consider location within a trading bloc, such as the EU or NAFTA, or that locational advantage confers attributes favouring production of certain goods, e.g. oil within OPEC or cane sugar, as a basis for export trade.

(b) The full range of answer quality was seen by Examiners. Clearly some candidates had not considered this issue previously and struggled to work out an overall position and to provide support in anything more than general terms. Some answers were very repetitive in structure and many missed one or more key elements, such as 'economic development' or quite what 'a more secure basis' might involve. Security could be interpreted helpfully as having a number of different elements: safety, for instance in relation to international terrorism or war; stability, in relation to tourism's fashionability or life cycle and to trade cycles; and certainty, for instance in relation to establishing trade agreements or the background of former colonial ties. Whilst Examiners had no pre-commitment to any particular view on the issue, many saw trade as preferable or in balanced assessments suggested that both trade and tourism together are the most secure basis for a country's economic development, although both have weaknesses. It was exceptional for a candidate to point out that tourism is itself an invisible export, when sold overseas.

Question 14

(a) Although the question suggested what some of the new forms of tourism are, many candidates supplied others of their own, most of which were not 'new' in the same manner, such as safari holidays in East Africa or cruises. One misinterpretation common in Caribbean Centres was that the demand involved was that of the island as tourism provider, rather than that of the tourist as consumer. Although there was some credit for the supply side of the issue, it led to somewhat irrelevant responses scoring few marks. Most answers were sound and some were very good indeed making perceptive points about health and fitness, the constant desire for new experiences and the shrewd promotion through the media and advertising of targeted packages. Social factors were covered better than economic factors, and some responses argued more for a general increase in the demand for tourism (more time, more money, better transport etc.) than the specific increase in its new forms. Some candidates offered exemplar support for their observations from a range of destinations and named locations such as a jungle lodge offering eco-tourism or a white water rafting canyon. This added weight to the response and can be linked to an instruction given to candidates on the cover of the paper, 'You should make reference to appropriate examples … even where such examples are not specifically requested by the question'.

(b) The principles for sustainable tourism presented in Fig. 9 covered aspects of environmental sustainability and of economic sustainability. In addition, many candidates considered the sustainability of tourism as a sector in relation to issues such as the life cycle model and its management by the government, which was also creditable. Weaker candidates tended to take principles from the figure one by one, explain their meaning and then state simply what was or was not sustainable in their opinion. This made for thin and repetitive responses with weak exemplification. Moderate quality responses were based more strongly in the chosen destination and sought to be selective in taking and applying some of the principles. The best responses were rich in case detail, often using a location in home country. They were also dynamic and had attributes of change, e.g. where carrying capacity could be soon breached by development. They also made a perceptive assessment of sustainability, maybe recognising greater and lesser elements at the chosen destination. Effective responses were produced at a number of scales. At the national scale some contrasted a coastal resort and an eco-tourism project within a named country, whilst others, legitimately, took one small destination in considerable detail.

Economic transition

Question 15

(a) This was an accessible issue which appeared to be welcomed by candidates. Responses tended, however, to be rather basic, both offering key ideas such as 'cheap land' or 'government incentives' without developing them and failing to mention any examples. Better quality responses offered advantages in several dimensions; physical, social, economic and political, although clearly the economic dominated them. Examiners noted with approval that candidates followed the question carefully in not pursuing the issue of low labour costs further, to no potential credit.

(b)   Few candidates could, in contrast, produce a sound response here. Many appeared to not give enough care and thought to reading the question, thinking through the issues and making a plan before they started to write. This was observable when '*one* transnational corporation' was not the answer's context and '*MEDC* location' not the answer's focus. Several candidates named several TNCs of a particular kind, such as car producers, but lacked detailed knowledge of any one. In terms of understanding of MEDC locations, many candidates produced no idea beyond that of the headquarters. Some considered research and development, only a few recognised MEDC markets. Whilst the Setter had expected that a simplified schematic map or diagram would assist the response, this was not an approach for which candidates appeared to have the material. A significant proportion of candidates digressed into the contribution of TNCs to the economic development of LEDCs, which whilst a more familiar subject, was not the intention of this question.

Question 16

This was the least-answered question on the paper and, although straightforward in content, it did require candidates to think in new ways in both parts.

(a)   Answer quality was from sound to good. Some candidates supported their responses creatively with a diagram based on Fig. 10 showing the required 'upward spiral'. Whilst the shape could be retained, the labels and annotation needed changing in such a way to become appropriate for the core and for the inward migration of labour. Answer quality was also determined by the examples used. At the basic level this could be simply naming a capital city as the core. Developed examples recognised that the core region was more than the city itself and offered detailed support for elements from the diagram such as specific job prospects, named services and attractiveness to actual new economic activities.

(b)   This was answered less well than **(a)**. There are two classic circumstances in regional development theory in which capital, resources and labour move from the core to the periphery. One is when spread effects operate, the other is when regional development initiatives are put in place by the government. Whilst exploring one circumstance was satisfactory, these two circumstances were the heart of a good response. Perceptive candidates may have recognised, in addition, one or more further circumstance such as the action of remittances or when the periphery is the resource-frontier region envisaged by Friedmann. General areas of weakness in the responses seen were in the level of conceptual understanding demonstrated and in insecure knowledge of suitable examples. A considerable number of candidates considered movements to the margins of the core region rather than to the periphery, that is to a true peripheral region. This, of course, limited the potential credit.