GEOGRAPHY CORE

Paper 9696/01

Geography Core

General comments

The results of this examination were a little disappointing in that fewer candidates appeared to deal effectively with all parts of the paper. Many responses were very patchy with a mixture of answers, some of which displayed clear understanding and others where the questions were often only partially or poorly attempted. This appeared to be the result of limitations in knowledge of parts of the syllabus rather than poor time allocation. Indeed, candidates on the whole appeared to have managed their time well, with fewer examples of missing or rushed answers. Rubric errors were rare.

Particular areas of the syllabus that appeared to be most troublesome for the candidates were channel flows and features in hydrology, tectonic plate boundaries and their attendant landforms, cloud formation and lapse rates, the nature of mass movements, stages one and five in the demographic transition model and a general inability to employ relevant examples or case studies.

Diagrams, where drawn, were often basic or faulty. This was particularly evident in **Question 8b** where the relationship between fold mountains and convergent plate boundaries was poorly illustrated. Similarly, the formation of cumulo-nimbus clouds (**Question 7b**) and the shape of the population pyramid in **Question 3b**. Other diagrams that were employed added little to the answer, such as drops of water on a leaf in explaining interception or the re-drawing of Fig. 6 in **Question 9**.

There was a better spread of answers to questions in **Sections B** and **C**. In the past there has often been an overwhelming concentration on hydrology and fluvial geomorphology (**Question 6**) and population change (**Question 9**). This year they did not dominate so much and some good answers were received to all questions in these sections.

Standards of writing and handwriting remain variable, but generally do not cause particular problems in the comprehension of the candidates' responses. Some candidates do find it difficult to express ideas with suitable technical or conceptual vocabulary. This is often apparent when the instruction is to **describe** a distribution (**Question 3a**) or a landform or feature (**Question 1a**). Some mistakenly attempt an explanation and many seem to lack the geographical vocabulary to express location. In some instances candidates throw in technical terms that are neither relevant nor explained. Examiners are not impressed by the inappropriate use of technical terms that are out of context with the question asked.

No particular terms used in the question seems to have caused any degree of miscomprehension amongst the candidates, although a number did interpret high, medium and low income areas in **Question 5** as referring to business rather than residential income.

Comments on specific questions

Section A

Question 1

(a)   Most were able to identify an oxbow lake, although very few could advance even the simplest of descriptions. All that was required was a horse-shoe shaped or marshy lake detached from the main river channel. Point bars (or slip off slopes) were less successfully identified although most candidates were able to associate the feature with the deposition of sand and/or gravels on the inside of meander bends.

(b)   The development of the type of meandering channel shown in Fig. 1 was frequently very poorly achieved. There seemed to be little understanding of helicodal flow or of the role of pool and riffle sequences.   Although the explanation of one of the landforms was often more competently executed, there was a general lack of understanding of both channel processes and landforms.

Question 2

(a)   Most candidates successfully identified the water content and velocity ranges of debris flows and rock falls.

(b)   The better responses were able to identify the conditions of frozen sub-soil and the seasonal movement of a saturated melted layer above it. Weaker answers merely read the velocity ranges from the diagram.

(c)   Fewer candidates displayed much knowledge of soil creep or were able to explain why it occurs at low velocities. This could have been simply expressed in terms of low slope angles and the cohesion of materials.

Question 3

(a)   Many candidates gave perceived features of the population rather than describing the shape of the pyramid. Those that concentrated on the latter found it easy to score full marks.

(b)   Many successfully sketched a transitional-shaped pyramid which filled out a little at the top, narrowed at the base and displayed the largest cohort aged 45 – 49 years. Some overemphasised one or more features and there were some who drew wrong diagrams that displayed such things as an inverted wedge shape.

(c)   Better answers were those that recognised both the drop in birth rates and in death rates leading to improved levels of life expectancy.   This was seen in the context of social and economic development producing likely changes in aspiration, working patterns, living standards and healthcare.   Weaker candidates were restricted to China's one child policy and postulated improved healthcare.

Question 4

(a)   Most were able to obtain both marks by observing a difference and similarity from the resource. The only exceptions were those that did not use the resource but speculated about possible causes.

(b)   Most candidates were able to advance appropriate reasons for staged migration and were duly rewarded with all marks available.

(c)   Less successfully answered, as many ignored the movements D,E and F in the diagram and merely offered a generalised cause, such as retirement. Better responses were those that put forward diverse reasons (both positive and negative) and supported them with named and located examples.

Question 5

(a)   Many faced difficulties in describing the differences in location of low income areas. Most attempted this in relationship to the CBD, which some assumed was the city itself. Relatively few identified the relative extent of the low income areas or their locations.   Some attempted explanation rather than description.

(b)   The better responses put together explanations that covered key ideas: bid rent, transport, accessibility and amenity.   These differentiated well between the two cities, recognising the differences between LEDC and MEDC situations. Weaker answers were those that were restricted to a single explanation such as employment opportunities.

Generally there was a reasonable spread of attempts at the questions, although **Question 6** and **8** were the more popular.

Question 6.

(a)   Most candidates knew the terms interception and stemflow and were able to score marks. Some omitted the storage element of interception, whilst others were under the illusion that stemflow consisted solely of flow within the plant stem.

Water balance was understood by most candidates to involve the inputs and outputs of a drainage basin and many could express this accurately in the form of an equation.

(b)   The drawing of the hydrographs was variable, although most made some approximation of the correct shape of the discharge curve. Most were also able to indicate the shorter lag-time found in urban areas, although the recessional limbs were often less well illustrated. Explanations tended to concentrate overmuch on surface flows, with little attention to infiltration and sub-surface flows. Most candidates were able to obtain reasonable marks.

(c)   By far the weakest part of virtually all answers to this question. There was little appreciation of the nature of either abstraction or of surface storage, let alone their effects upon flows and stores. In the case of abstraction, few mentioned likely impacts upon water tables and ground flows and storage. Many realised surface storage could involve the creation of reservoirs through damming, but were unable to develop any descriptions concerning the regulation or restriction of channel flows downstream from the dam sites. Appropriate exemplification was extremely rare, although well rewarded when included.

Question 7

The least popular of questions in this section, but providing some excellent responses.

(a)   Candidates were either familiar with these terms and easily obtained the marks with concise and accurate definitions or had little idea, particularly of sublimation and made wildly inaccurate guesses.

The distinction between snow and hail was more problematical for many, although most candidates were able to point to the lighter crystalline structure of snow flakes.

(b)   Some excellent diagrams that showed clouds of considerable vertical extent, dew point and correct lapse rates set off by convectional heating. The weakest answers merely showed vague, fluffy cumulus clods with some indication of convectional heating.

(c)   Generally well done by many candidates, who explained the production of greenhouse gases through the burning of fossil fuels and increases in the extent of agriculture. The greenhouse effect was often clearly explained and some effort made to limit their explanation of impact to climatic elements. Weaker answers confused greenhouse effects with damage to the ozone layer and indulged in speculation concerning the human consequences of rising sea levels.

Question 8

(a)   Biological weathering was better understood than solution weathering. The latter led to much confusion concerning carbonation. Few realised that solution weathering involved the washing away of soluble mineral elements.

The causes of dilatation (pressure release) was well understood, although the impact in terms of surface sheeting was mentioned less frequently.

(b)   Very poorly answered. The diagrams were, at best, very basic and usually highly inaccurate in depicting plate collision margins and subduction. Some were able to place fold mountains with some degree of accuracy on the diagrams but very few candidates were able to point to the crumpling and folding of sediments that produced fold mountains. Many candidates seemed to think that fold mountains were produced solely by vulcanicity

(c) A lot of very poor answers that were unable to relate human activities to weathering, apart from the production of acid rain. Even here there was much confusion as to the effects of acid rain. The exposure of rock surfaces to sub-aerial weathering by the removal of surface deposits or the effects of dumping of material on the earth's surface were rarely mentioned. Slope form and development is little understood and thus the effects of the undercutting of slopes or their stabilisation or destabilisation by human activities were infrequently mentioned.

Section C

Question 9

(a) Most candidates were aware of the high vital rates found in stage one of the demographic transition model. They were also able to advance some reasons as to why these rates were high. Fewer, however, were able to develop this by describing and giving reasons for the self cancelling nature of the fluctuations and hence the low rates of overall population growth. There remains a widespread misconception that some whole countries can still be assigned to this stage of the model. This is incorrect as this stage is rare even amongst a few isolated tribes today. Appropriate historic examples were, of course, acceptable.

(b) The nature of a possible stage 5 was described with some success by many candidates, although there was a tendency to exaggerate the divergence of the vital rates. Suggesting a rapid decline in population. Most associated this with West European countries and usually cited the ageing of populations as evidence. Some candidates were able to bring into the discussion evidence of populationist policies in France and Italy.

(c) Many candidates experienced some difficulty in dealing with the timing of demographic transition and merely described the different stages. Better answers realised the Eurocentric nature of the model and the assumptions made about the progress of economic development. They were able to develop arguments concerning the transfer of knowledge and technology from MEDCs and thus the impact upon the fall in death rates heralding the onset of stage two and the falling birth rates at the start of stage three. There were some vague statements about 'skipping stages' as opposed to rapid movement through them and some speculation about moving backwards due to catastrophes and the onset of AIDS in Sub–Saharan Africa.

Question 10

(a) The term international migration is reasonably well known, although some fail to mention that it is a move of more than one year's duration. The example of such a migration was less successfully achieved. Often only broad streams were identified (eg China to Europe), without giving any indication as to timing, scale or context.

(b) Political barriers to migration were generally well recognised as opposed to barriers of other kinds, but few candidates could offer much detail. Visas were commonly mentioned but there was little description of such things as exit barriers (eg North Korea), the framing of immigration policies and the setting of hurdles, quotas, tests or interviews.

(c) Most candidates understood the term economic migration as a personal move with the motive of economic betterment, although a few mistakenly associated it with the spread of trade or industry. There has been some improvement in the response to evaluative questions such as this. Most candidates do now attempt to assess, rather than merely offering a descriptive response. Although many candidates offered an argument or position, few were able to produce the evidence to substantiate it. Better responses observed losses and gains in both the sending and receiving countries, often supported by well-worked examples such as the migration of Turkish workers to post war Germany or more contemporary economic movements to European countries or to the USA.

Question 11

(a) Candidates were required to identify two and only two different problems. A great variety of problems were cited, although in some cases the two problems were not particularly distinct from each other. The most common problems cited were those of shanty development, unemployment, overcrowding service provision and pollution. Candidates were then required to describe each. Better responses described symptoms and contexts, often locating the problems in cities such as Nairobi or Rio de Janeiro.

(b) There were some thoughtful and creative answers on aspects of rural development. Some better answers mentioned the role of perception, information and education in dispelling myths about the attractions of many urban areas. The main limitation on the quality of the responses was their generality and the lack of detail concerning rural development and investment.

(c) Some candidates missed the reference in the question to one of the problems identified in (a) and thus could only obtain limited credit. The best answers considered the uses of finance in overcoming a named problem in one or more located contexts, such as Cairo or Delhi and the role of at least one other factor, such as corruption, self help or continued population growth. Many made assessments of the limited role of finance in tackling the scale of the problems. Weaker answers merely regarded finance as a panacea for the solution of all problems.

GEOGRAPHY PHYSICAL OPTIONS

Paper 9696/02

Physical Options

General comments

The style and type of questions on this examination were very much in line with those of previous years. The response from centres, however, displayed a far greater concentration on only two option areas to the exclusion of others. The vast bulk of candidates attempted questions from Coastal and Hazardous Environments with few attempts at questions from Tropical or Arid Environments. This did not work to the candidates' advantage as many attempted answers to coastal questions that were entirely dependent upon textbook examples from unfamiliar areas, rather than being able to employ material derived from the tropics in which they live.

There was also the suggestion that many candidates had prepared rather narrowly from the syllabus in their chosen option areas. Thus in **Question 3**, which was by far the most popular question on the paper, many candidates were able to deal competently with wave erosion, but could offer little relevant or accurate material on the formation of spits.

When questions contain resource material, it is important that the candidates use this material in a sensible manner to structure their response. In some instances, candidates ignored the material and just wrote about the topic in general terms. This was apparent when dealing with wave refraction in **Question 4**. In some cases they merely repeated the material contained in the diagram without explaining the terms or responding to the question. This was often the case in the relatively few answers to **Question 2**. The best usage of the resource material was in **Question 6** and **Question 8** where better responses utilised the material to organise their answer and displayed useful powers of observation and description.

The use of diagrams within answers continues to vary considerably. On occasions they were accurate and employed to telling effect, such as in demonstrating longshore drift and the formation of spits. In others they appeared rather superficial and crude, such as the depiction of buildings constructed on springs in **Question 5b**.

The use of English and the legibility of scripts was, as always, variable, but in few instances was such as to give any serious problems in assessing the quality of the material.

Comments on specific questions

Tropical Environments

Question 1

Not popular, with only a few good responses.

(a)　　　Many answers, particularly from some centres in South and East Asia could only describe the rainy season, with little, if any, reference to seasonal reversal of monsoonal climates. Some answers did attempt an explanation of the mechanisms of the seasonal shift but often confused the incidence of high and low pressure and their influence on wind direction. The descriptions of the climates were rarely exemplified or described beyond being 'hot and wet'. Only the better answers were able to invoke the effects of the seasonal movement of the ITCZ or provide any exemplification.

(b) Poorly answered, although there was a general appreciation that chemical weathering dominated in the humid tropics. Few candidates, however, were able to give any detail of the processes involved or to suggest why they were of significance in these climatic areas. Many candidates erroneously assumed that mechanical processes were the only weathering types found in the seasonally humid tropics. Landforms were poorly developed, although better responses that recognised the significance of deep weathering of basal surfaces were able to develop etchplanation and describe the resultant landforms. There was an opportunity to describe the processes of carbonation and the formation of tropical karst features, but this opportunity was rarely taken.

Question 2

Very few answers.

(a) Only a handful of candidates were able to demonstrate any knowledge of seral development and to illustrate these developments with reference to tropical rainforest, secondary forest, woodland savanna and grassland savanna. Many responses merely repeated the terms used in the diagram with no attempt to relate them to tropical plant communities.

(b) The damaging nature of human activities on Tropical Rainforest are well known and were often described in detail. The effects on vegetation and soil fertility, however, were less well described or explained. Better answers were able to describe interruptions to the nutrient stores and cycles and its effects through the leaching of soil nutrients on fertility. Good candidates were able to produce useful Gersmehl-type of diagrams to illustrate this process. Many, however, dealt only with global impacts such as global warming or unspecific accounts of soil erosion.

Coastal Environments

Question 3

By far the most popular question, producing a wide range in the quality of responses.

(a) The processes of wave erosion are well known by most candidates although many wasted time by describing the nature of constructive and destructive waves and giving details of beach erosion. Many candidates produced clearly drawn and annotated diagrams to show the model of cliff retreat and the development of a wave cut platform. There were, however, a significant number of candidates who was the wave cut platform as a depositional feature or who spent some time describing the development of arches, stacks and stumps.

(b) A wide variety in the quality of responses. Some were disappointingly weak, with only a vague idea of longshore drift and with accounts that confined such activity solely to beach development. Simple spits were shown by crude diagrams, which often failed to indicate such things as the change in coastal alignment that could bring about the deposition of transported sediment. Compound spits were merely viewed as somewhat larger features. Better responses were able to describe both littoral drift and longshore currents, as well as demonstrating the significance of sediment supply, water depth and wave refraction in the production of compound spits.

Question 4

Less popular than **Question 3** and often poorly answered.

(a) The process of wave refraction was poorly understood and few could provide adequate explanations even with the assistance of the resource. Many chose to ignore the resource and give accounts of bayhead deposition and headland erosion. Even here little reference was made to water depth, wave concentration, wave dispersion or wave energy. The weakest accounts reverted to descriptions of constructive and destructive waves.

(b) Very few accounts addressed the natural characteristics of dune or salt marsh environments. Many accounts detailed destructive human activities in dune areas, largely from leisure pursuits. Salt marshes were frequently ignored or simply described as being 'destroyed by pollution'. There was no suggestion that human activities could be protective of these environments as well as destructive.

Hazardous Environments

Question 5

Very popular, with some excellent answers but overall a wide range of quality.

(a)   Many answers demonstrated an outline knowledge of tectonic zones. Weaker responses failed to associate different tectonic boundaries with the distribution of particular hazards. They merely suggested that plate boundaries were important because they allowed people to avoid living in the vicinity. Better responses differentiated between hazards related to different types of boundary, pointing out that destructive margins could be associated with violent volcanoes, earthquakes and attendant tsunami and landslides**.**

(b)   A large range of hazards was selected by candidates, although earthquakes and volcanoes tended to dominate and were, on the whole, better answered than hurricanes, landslides or avalanches.

Some accounts overdid the descriptions of the hazardous event, often citing at length a particular example of an event. This was achieved to the detriment of the attempts made to limit its effects on the environment. Better accounts showed more balance and introduced an attempt at evaluation of the success of the monitoring, technology, prediction, warnings, education, etc that could be involved.

Question 6

Less popular than **Question 5** but still attracting a large number of responses.

(a)   A surprisingly large number of candidates ignored the resource provided and gave a generalised account of the eruption of Mount St Helens or of violent volcanic eruptions in general. These accounts often concentrated on the impact upon human activities and could be afforded little credit. Better responses scored heavily with highly disciplined accounts of the distribution of eruption products providing locations, distances and directions.

(b)   Candidates are now far better informed on prediction methodologies of volcanic events than they were in the past. Many accounts gave detailed descriptions of the technology and instrumentation involved in the attempts at prediction. Some accounts became a little confused with methods of earthquake prediction as they included feature such as the calculation of seismic gaps. Weak responses merely mentioned the observation of animal behaviour. The level of evaluation of the effectiveness of such methodologies in the limitation of the hazardous effects was generally found only in the better responses.

Arid and Semi-Arid Environments

Attempted by only a few centres, some of which produced excellent answers.

Question 7

(a)   Many concentrated on the causes of arid climates rather than the actual nature of the climate in hot arid areas. Good accounts provided a balance between the two. They described the low levels of precipitation and its episodic and unpredictable nature, high temperatures and diurnal ranges, high PET levels and the incidence of wind storms. These were then explained in terms of their location in regard to sub-tropical highs, rain shadow effects, cold ocean currents etc

(b)   Most were aware of the impact of population pressure, deforestation, overgrazing and groundwater usage upon semi-arid areas. In some cases, useful exemplification was drawn from studies of Northern Kenya and the Sahel. Generally only the better responses addressed the 'to what extent' part of the question. These discussed the possible impact of drought cycles or even the effects of global warming. The concept of sustainable management was not well known.

Question 8

(a) Most could identify the dunes but only the better responses were able to indicate how sand supply and airflow could influence the shape, size and mobility of the dunes illustrated in the diagram.

(b) The majority of candidates approached this as a question that required a contrast between past and present processes and their influence on desert landforms. Most of the time was devoted to a description of water formed landforms and landscapes. These were attributed to Quaternary pluvial periods. Wind-formed features of the present, drier regimes were outlined in less detail and often accompanied by poorly executed diagrams. Better accounts did link the two elements and made some assessment of the extent to which running water was the more significant element. Some responses made no mention of climatic change and confined their attention to present day conditions, often concentrating almost exclusively on the processes of wind erosion and transportation.

GEOGRAPHY

General comments

Comparison with the outcome of the May/June examination in recent years suggests that candidates' performance was broadly comparable on this now well-established paper. One important change this season was the separation of Paper 3 from Paper 2 to give two short examinations with a small break for candidates in between. On the basis of evidence seen, examiners welcomed the change and noted the positive impact on answer quality and the completion of scripts secured by the distinct 1 hour and 30 minutes' timeframe. There were few partial or unfinished scripts, more of which seemed to be the result of inability, than of poor time management.

The demand of the paper overall was similar to, and its use of a range of styles of resources and questions familiar from those of previous seasons. Teachers are reminded that to prepare candidates effectively for the resource-based Human Options' questions, a wide range of styles of materials should be used in their teaching. These are listed in the syllabus and demonstrated by past papers. Candidates need to be able to interpret different styles of resources: to read off information, to describe what they see, for instance, features, distributions and data trends and to suggest reasons or explanations for their observations. Often candidates are asked to suggest reasons for phenomena of which they may have no knowledge, but working from their geographical understanding. This was the case for **Question 1(a)(ii)** in relation to changes in dairying in New Zealand and **Question 8(a)(ii)** in relation to the uneven industrial development of China. In each case the suggested explanations needed to relate to the broad context (an MEDC and an NIC), but it was not expected that either country would have been taught as an example and full marks could be achieved from understanding alone.

The full mark range was used in assessing responses, both in point-marked and Levels-marked parts of the paper. Total marks ranged from single figures to over 40 marks out of 50 for an exceptional performance and geography of the highest order, far beyond that required to achieve a grade A. Examiners noted that there were not many Level 3 quality responses to questions' parts **(b)**. To generalise, it may be helpful for teachers to know that a candidate's work may remain at the top of Level 2, achieving a good mark of 11/15, rather than entering Level 3 (mark band 12–15/15), because it is limited in one or more ways. These limitations may be of overall perspective, assessment, structure and organisation, or the diversity and detail of exemplar content.

Amongst the four Advanced Human Options, **Environmental Management** (**Questions 3 and 4**) and **Global Interdependence** (**Questions 5 and 6**) remain the more popular. Examiners noted that **Question 6** was very popular but that they saw few responses to **Questions 2 and 8**. The least popular Option, **Economic Transition** is learned well at a number of Centres and provides candidates with a valuable window on the contemporary world at the conclusion of their geography course.

There were a significant number of scripts where candidates' problems with English were noticeable. This affected both the interpretation of questions and the expression of responses. A more general difficulty was the misreading or misinterpretation of parts of questions, maybe simply through examination pressure. For instance, candidates who missed the term '**rural** environments' in both parts of **Question 4**, or 'economic' in **Question 6(a)(i)** limited severely the credit they could be awarded for their work. No term used in any question posed particular difficulty this season, although in **Question 3(a)(ii)** many candidates either did not recognise 'arguments **for** nuclear power' as only relating to those in favour of its use, or included arguments against its use, all the same, to no credit.

In respect of scripts of both average and weaker quality, a central problem appeared to be inability to maintain a consistently satisfactory standard both across the two responses and across the different parts of each response. There are many possible reasons for uneven performance, about which it may not be meaningful to speculate broadly.

Very few rubric errors were seen, perhaps 1%. They were committed by the weakest of candidates, apparently either because they had time spare in which to attempt one or more further questions, or because the instructions on the paper had not been read and/or understood.

For a paper where half the questions were resource-based, there were limited opportunities to offer maps and diagrams in support of responses and few candidates drew. Some candidates did well to offer a location map in support of an example they were using, for instance, of an export processing zone for **Question 2(b)** or of a rural environment for **Question 4(b)** and others produced a core-periphery diagram for **Question 8(a)(ii)**. Some candidates accompanied their responses to the popular **Question 3(b)** with small representations of 'the greenhouse effect', oil tankers, oil rigs, or spoil tips and holes in the ground in the case of coal, all of which were not suited to the risk assessment required and inappropriate at A Level.

Comments on specific questions

Production, Location and Change

Question 1

The question was very popular but the quality of responses was disappointing.

(a) (i)   Although given two maps showing location and Table 1 showing numbers of factories, most candidates did not refer to the maps. All recognised the decrease in numbers of factories between 1971 and 2001 but most simply rewrote the data in the table without analysis or comment. Better marks were scored by those who observed a significant decrease, or similar, or who noted that although the number of factories lost was far higher in North Island, the percentage was similar, some 75% overall. The most frequent comment on location was that the factories were more dispersed in 2001. Examiners rewarded specific observations, such as that on North Island the cluster in the west in 1971 had disappeared by 2001, leaving only two factories, or that on South Island the scatter of factories to the south was replaced by just three well-spaced factories in 2001. It was exceptional for a candidate to have studied **Figs 1A** and **1B** sufficiently carefully to note the establishment of a factory by 2001 in a location not shown in 1971, such as the two in the centre west of North Island or the most northerly factory on South Island.

(ii)   This was rather better answered than **(i)**, the context being the profitability of the dairy enterprise. Some candidates confused dairy farms with dairy factories. A range of possible reasons was put forward and marked on merit, in relation to the operation of the market and to changes in transport and technology giving greater levels of productivity and reducing the number of factories needed to produce the same, or greater, output. Some saw this in the context of global shift and tertiarisation within an MEDC. Some weaker candidates attempted catastrophic explanations based on New Zealand's volcanoes or on hazy awareness of so-called "mad cow" disease. It was, however, those candidates who showed sound business understanding of the dairying enterprise who scored the most marks.

(b)   Responses tended to be of low to middle quality, which was disappointing. Weaker candidates often either wrote the story of one farm or one local market they knew or gave their version of Von Thünen's model, the conceptual base of which remains in the syllabus. Others saw that improvements in transport, technology and storage do make the distance to market less important and could give examples in support of this, but few could get beyond these points to develop a fuller argument. Some attempted a contrast of the situation of poorer farmers in remote areas of LEDCs and the better-placed producers of MEDCs. Only the best candidates could appreciate that internal markets also matter in MEDCs and that export markets may be very important to LEDCs. This is true both for processed goods, such as tea and coffee, and for perishable ones under refrigeration, such as tropical fruit from the Caribbean or flowers and green beans flown to European markets and stores from Kenya. Candidates did well to consider the cost of transport to market alongside other costs and payment/profit and to investigate the significance of different types of agricultural product, such as bulky grains and high value perishables, classically.

Question 2

The small number of responses from prepared candidates was of satisfactory to good quality.

(a) The term productivity was understood well, an understanding perhaps assisted by the explanatory clause in the question, put in to avoid its confusion with production (output). Most candidates could identify three suitable factors, amongst which the quantity of labour, quality of labour, energy supply, level of mechanisation and supply of raw materials were commonly seen. Whilst transport of raw materials to the factory was relevant and can lead to delays, shortages and stoppages, transport of finished products to the market could not be credited, as productivity is only about the production of output, not its later transfer or marketing.

(b) A few candidates confused EPZs either with industrial estates in general, about which there have been questions set in the past, or TNCs, apparently, which are not examined under this Option. Where the term EPZ was understood there were some good answers describing the character in a well-rounded manner and assessing the role suitably, both for the host country or countries and for those companies located there. Some of the best responses used a case study, often either the well-documented Mexican *maquiladoras* or an EPZ in or near the candidate's home country. The role of an EPZ is probably best appreciated as one of mutual benefit, where companies bring industrial employment and all that flows from that into LEDCs and NICs, whilst gaining a competitive edge, greater profitability, proximity to new markets etc.

Environmental Management

Both questions were very popular and yielded responses of the full range of quality.

Question 3

(a) (i) Timed to coincide with the twentieth anniversary of the world's greatest nuclear accident to date, **Fig. 2** was handled well by candidates. The path of the radiation cloud could be described using one or more of compass points, land and sea, latitude and longitude or country names (not shown). Of these, it was reading latitude and longitude which caused the most difficulty and some candidates simply settled for an impressionistic zone or approximation. Better responses often used terms such as sinuous, curved or westward for the path. They also made careful reference to the anticlockwise loop over the UK between 2 and 7 May and to the divergence on 3 May with part of the cloud heading north and petering out. A number of candidates used 'up' and 'down' or 'upwards' and 'downwards' to describe the path, rather than directional changes. There was neither need, nor credit available, for an attempt at a meteorological explanation of the path of the cloud.

(ii) As mentioned, many candidates included arguments against nuclear power irrelevantly. There were some high quality responses focused on the efficiency, longevity of supply and environmentally-friendly nature of nuclear power. Many had data or examples to offer in support of their general arguments. Candidates were asked for 'the **main** arguments' and as such a full response could consist of two or three well-developed points or of more simple ones. Some candidates used bullet points or made note-form responses from which, if the expression was brief it was hard to derive much credit. So for instance the observation 'efficient' conveys little without the explanation that it is efficient in producing large amounts of energy from small amounts of uranium, or cost-efficient in terms of cost per unit energy produced once established.

(b) Although asked about 'potential risks', many candidates simply approached the question from the point of general problems or disadvantages. This may have simply reflected the manner in which they had learned the material but was limited for addressing the question set. For instance, it may be a problem to a local community that open-cast coal mining can be noisy, or a disadvantage that hydro-electric power has specific site requirements, but neither of these are risks as such. The highest quality responses were explicit in identifying risks and some went so far as to class these, by dimension, as environmental, eg the risk of oil spillages; social, eg health and safety issues; economic, eg a country's over-dependence on one fuel source; and maybe political eg dealing with the oil politics of the Middle East. A surprising number of candidates wrote generally about fossil fuels, rather than the '**one** energy resource' required. In these cases, the examiners credited the candidate with the best mark that could be achieved from just coal, oil or gas. Whilst any one energy resource was acceptable, the non-renewable sources, notably oil, tended to give greater potential for risk assessment than the renewable ones. There were, however, a few high quality responses on the risks of production from a renewable source, both wind and HEP, where a challenging topic was handled with insight, geographical understanding and good judgement. Better quality responses, irrespective of energy resource, were supported with named, located examples often with the year given for a specific incident. This was true of the oil rig explosion and fire at Piper Alpha in the North Sea (1988); the oil tanker disasters of the Exxon Valdez, Alaska (1989); or the fatal landslide of coal spoil at Aberfan, South Wales (1966). Better quality responses covered risks both to people and to environments, but not necessarily in a balanced manner.

Question 4

(a) There were many sound to good responses, showing suitable understanding of degradation in rural contexts. Many candidates were challenged to identify and express factors well, and tended to identify functions or activities instead. So for instance, 'agriculture' was not itself a factor, but overgrazing, or a reduction in the length of the fallow in shifting cultivation, were. Many candidates referred to some aspect of agriculture and of urbanisation and to deforestation. It was harder for examiners to pick through accounts which, presumably responding to the word 'three', had decided this must be a question requiring an air pollution/water pollution/land pollution answer. Whilst any factors were acceptable, some of the more astute seen by examiners included population pressure, profit motivation, weak or corrupt government and the impact of a hazard such as a hurricane.

(b) Sound answers to **(a)** tended to set candidates up to answer **(b)** satisfactorily, but a surprising proportion of candidates had poor understanding of the concept of environmental protection. Many clearly wanted to write about upgrading a degraded environment, in which case the selection and application of learned material to the question set was of fundamental importance. The measures taken to protect rural environments included more formal ones, such as National Park designation or rainforest legislation, as well as a range of contributory measures, such as education or involving local communities in environmental management. Better quality responses were placed carefully in a named located environmental context such as the Amazonian rainforest, a reserve, park or rural area known to the candidate, rather than just 'in Africa' or similar. Much credit could be derived from the effective assessment of the measures' effectiveness. Weaker candidates either simply described the measures in place or offered a simple assessment, often no more than that the scheme worked. Higher quality assessments usually recognised varying degrees of effectiveness both between different measures and in space and time and made clear some of the constraints affecting them. Constraints included issues of funding, corruption, unforeseen circumstances, differing attitudes and conflicts of interest.

Global Interdependence

Question 5

A popular question, to which responses were characteristically uneven in quality across the different parts.

(a) (i) A balance of trade being exports minus imports was straightforward for most. A few inverted the two elements (thus destroying the necessary positive or negative) and some substituted volume or amount for value, incorrectly. Although a balance of trade applies to visible goods, this was not needed for the single mark.

(ii) This was answered well by many candidates by close reference to **Fig. 3A** for dates and dollar values and use of terms such as *adverse balance of trade* or *trade surplus*. Weaker candidates simply described the trends in imports, exports and the balance of trade, perhaps failing to notice the positive trade balance in 1999.

(iii) Given that this question was an invitation to demonstrate wider knowledge and understanding of trade and trading patterns, responses were disappointing. Few candidates got further than suggesting that it would help to know the nature of the imports and the exports and who Costa Rica's trading partners were. A few good candidates made additional perceptive points seeking information about the political situation and decision-making, trading agreements, the global market, events in 1999 (the trade surplus) and 2002 (the greatest deficit) or the possible usefulness of up-to-date statistics. For such developed answers, full marks could be readily achieved.

(b) Examiners noted that it was straightforward to distinguish the three levels of response by the way candidates approached this question. Weaker responses in Level 1 tended to be misconceived, descriptive of exports from a country or simply general. The majority, Level 2 responses, were sound to good and often based on one example, such as the candidate's home country. The danger was that there was often a failure to deal with both manufactured goods and agricultural products, as required by the question. Good marks could, however, be achieved by dealing with two potential difficulties well. The few Level 3 responses were characterised by their "big picture" perspective, maybe by the use of diverse examples and were structured as assessments throughout. Whilst candidates identified a range of potential difficulties, those most commonly seen were global competition, market penetration, the action of trading blocs, the role of trade agreements, quality issues, hazards affecting agricultural products and cost/price issues leading to an unprofitable outcome and, perhaps, indebtedness. Some candidates pointed out that a diverse economic base is a firmer foundation for a country and that services, especially tourism in LEDCs, have an important role to play in a fuller consideration of 'the economy's engine for growth'.

Question 6

This was the most popular question on the paper. Both parts differentiated well and, whilst allowing moderate candidates to score satisfactorily, proved challenging to good candidates in order to achieve high marks.

(a) (i) Despite the explicit exclusion in the question, a large number of candidates included leakage or some aspect of it in their responses. Others failed to notice the word 'economic' and wrote incorrectly about social impacts such as cultural dilution, or environmental ones, such as pollution. Some covering an environmental impact, such as damage to resorts or features, did give the point some legitimacy by mentioning the associated costs of maintaining or repairing the location(s). A range of negative economic impacts was seen and credited, including seasonal employment, the domination of foreign labour, external control, economic vulnerability, local price inflation and the diversion of funds into the tourist sector and resorts and thus away from local needs. Whilst weak candidates tended to omit examples or provide them in name only, such as 'eg India', some good specific exemplar material was seen. For instance, some candidates explaining seasonal employment outlined the months of high and low seasons in their country and wrote about wage levels and seasonal poverty. Others contrasted the infrastructure and projects in resort areas with named neighbouring communities that lack particular services such as electricity. Many offered a contemporary example of economic vulnerability using a massive downturn in tourist arrivals and income from tourism, such as following 9/11 or the Bali bombing in 2002.

(ii) Responses were quite limited, although many candidates made good use of the fact that it was legitimate to address leakage here, although not in **(i)**. Whilst the responses were sufficiently varied as to make generalisation difficult, better responses usually related to policy and/or planning and offered at least two ways to minimise the chosen impact. A few were able to give examples of initiatives to address the impact, for instance in relation to laws on foreign ownership of tourist enterprise. In many cases eco-tourism was seen, rightly, as one possible element of a more sustainable tourism.

(b)   As with **(a)** and the term economic, it was important in **(b)** for candidates to confine their explanations to the social and political dimensions. Many candidates strayed into economic considerations, such as cost, or into environmental ones, such as environmental degradation. This diminished overall answer quality and wasted time. Candidates had little difficulty identifying a range of social and political conditions, although, as is often the case, weaker responses tended to depend heavily on the catastrophic, such as wars, and on examples that were not well-suited, such as Afghanistan, never popular as a tourist destination. Better responses clearly addressed 'reduce significantly' rather than simply arguing for low popularity. In addition to identifying conditions and giving examples, the best responses tended to include an explanation of how the conditions affect tourists and the decision-making process. There were some good sections on how fear, insecurity and safety issues matter when it is a good relaxing holiday that is desired and on how image, media coverage and government advice are key to holiday choice and planning. Many candidates had local knowledge of an issue and used this suitably, whether crime (social) in some Caribbean islands, terrorist events in Kenya or the nature of the regime in Zimbabwe (political).

Economic Transition

Question 7

(a)   Successful responses explained both elements of the term *international spatial division of* labour, that is *international spatial* and *division of labour*, in the context of a detailed example of a transnational corporation (TNC). Any TNC was valid and examples included producers of sports goods, such as Nike or Adidas; beverages, such as Coca Cola; or of vehicles, such as Toyota. A few responses were supported by an annotated schematic map or diagram which helped the clarity of the response and may have saved a little time. Weaker responses tended simply to observe that the headquarters is located in an MEDC and manufacturing jobs in branch plants in LEDCs, but this is an over-simplification and scored basic marks. Better candidates appreciated the dynamic and footloose nature of transnational corporations, the regional nature of global operations, the complexity of networks and their readiness to move operations as factors of production change.

(b)   There were some strong responses to the question of dependency and many that were satisfactory, as it appeared to be a concept that is well understood. Most candidates wrote about the dominance of MEDC-owned TNCs in LEDCs as a prime cause of this new form of dependency, given the associated linkages and flows. Some also covered unfair terms of trade and the domination of many of the world's decision-making bodies by MEDCs. Better candidates responded to the question of extent, in that they offered points in support of the statement and disagreeing with it. The rise of NICs produced some good potential material for the latter and work on China showed how dependency could be reduced. Some candidates pointed out that MEDCs are dependent on LEDCs for certain products, most importantly for oil, but also for tropical agricultural products and some raw materials. One Examiner noted the rare point in a response that globalisation, by its very nature, increases the interdependency of countries, whether MEDCs or LEDCs.

Question 8

(a) (i)   Responses to the interesting resource of **Figs 4A**, **4B** and **4C** were disappointing, as most candidates simply listed the top three and bottom three provinces for each map, rather than providing a proper analytical comparison. Others were able to observe that Jiangsu and Guandong were in the top three provinces on each map and the surprising position of Sichuan, amongst the top three for industrial structure, but amongst the bottom three for industrial competitiveness, yet could not compare fully.

(ii)   There were two kinds of approach to this question. One group gave an economic explanation based on a core-periphery approach. The other group offered a number of different possible reasons such as resource endowment, a coastal location with port access for Jiangsu and Guandong, or spatial variations in government economic policy and investment. Either approach, or a combination of the two, could work well, especially if links were made back to the maps and to named regions of China.

(b) The concept of social development seemed to be understood reasonably well, although many responses would have been assisted with a simple definition within the first paragraph. Candidates had little difficulty in producing several reasons and examples, usually equating a low level of social development with a low level of economic development and demonstrating how government priorities tend not to be social ones where poverty and indebtedness dominate. There was some good reasoning in relation to the social position of the female gender in some societies and to their education and welfare not being seen as funding priorities. Other robust work included political reasons, such as military regimes, the grip of war and corrupt governments or the pursuit of economic growth at the expense of social development, with which China has been charged. Some candidates made the fair point that levels of social development vary spatially within countries, with core/periphery and urban/rural being two such significant distinctions. Many responses were structured as a list of developed reasons, each supported by an example, but examiners felt that an in-depth approach to two or more cases yielded higher quality accounts and was less repetitive.