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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

The performance in this year's examination suggest that most Centres had been successful in their preparation of candidates. Certainly there were few examples of rubric infringements and fewer candidates missed out compulsory questions than has been common in the past. There is still an issue over time allocation as some candidates produce hurried or partial answers to the final questions in **Section A (Question 5)** and **Section C (Questions 9, 10 and 11)**. This problem is exacerbated by the inability of some candidates to match the amount of time spent on question sub-sections to the amount of marks available. Thus answers to **Question 3 (a)** often included material on the formation of the Mid-Atlantic Ridge, which was either ignored or repeated in **Question 3 (b)**. Similar problems existed in **Question 6 (b)**, **Question 7 (a)**, **Question 8 (b)** and **Question 10 (a)**.

Attention should always be paid to the command word in the questions. Some candidates wasted time with lengthy descriptions when all they were required to was to identify something from data. Similarly, description was not always distinguished from explanation, again leading to unnecessary repetition.

The approach to **Section A** questions was more even than has been the case in the past, although atmosphere and weather continues to prove a difficult area for many candidates. It is pleasing to note that most candidates now pay due attention to the data provided. In **Sections B** and **C** there was a broader spread of questions attempted although **Questions 6** (hydrology and fluvial geomorphology) and **9** (population change) remain the most popular, although not necessarily the most successfully answered. In many Centres candidates continue to perform better at the knowledge recall and understanding required in **Sections B** and **C** than they do in the response material of **Section A**.

Standards of language and handwriting were variable with some candidates struggling to express often valid ideas without the technical vocabulary or familiarity with the requisite concepts. That said, many impressed with their facility in expressing everything from processes on divergent plate margins to the economic concepts of range and bid rent. No particular words or phrases in the questions appeared to cause problems, although the term re-urbanisation (**Question 10**) seemed unfamiliar to candidates in some Centres.

Many good quality scripts were seen by Examiners. These were found throughout Centres in all parts of the world.

Comments on specific questions

Section A

Question 1

- (a) Most candidates identified two landforms although not all were appropriate. Whilst gorges and waterfalls were acceptable, minor channel features such as point bars were not. Some candidates identified features they wished to explain in part (b) with no regard as to whether or not they were discernable from the map. Very few candidates were able to give even a short description drawn from the map of the landforms they had identified. A few attempted to give grid references rather than a description. These were not required and were mostly inaccurate. A significant minority of candidates identified features from rivers other than the Zambesi valley specified in the question.
- (b) Many explanations of the valley features were poorly executed. Waterfalls were generally better explained than most and were often accompanied by pertinent diagrams. Good answers were able to link the retreat of waterfalls with the development of gorges, although more commonly answers merely referred to the differential erosion of hard and soft rocks.

Question 2

- (a)(i) Most candidates identified environmental lapse rate as the loss of temperature with height, although a significant number of answers failed to designate the atmosphere. Some erroneously associated it with a rising parcel of air.
- (ii) A surprisingly large number of candidates were unable to read the change in temperature with height from the diagram. This suggested there was a lack of experience or knowledge of the use of such diagrams.
- (b) Few used the temperature height diagram to provide evidence for instability. Explanations were often vague and related to a general knowledge of atmospheric processes. Many ignored this part of the question and only dealt with resultant weather. Again this was rarely couched in terms of an effect of instability.

This was generally the least well answered of all the compulsory questions. Many answers displayed little appreciation of weather or of atmospheric processes.

Question 3

- (a) There were two main shortcomings to answers in this part of the question. Firstly, a lack of attention to Fig. 2, such that responses were made from memory producing general accounts of continental drift or of both convergent and divergent plate boundaries. Secondly, most accounts failed to include the course of the ridge itself and merely referred to the existence of transform faults and volcanic islands. Some accounts included explanations for divergent boundaries which then hampered the answer to the subsequent section of the question.
- (b) Those candidates who confined their attention to divergent plate margins were generally able to produce a reasoned account of the formation of mid-ocean ridges. Many accounts were accompanied by useful diagrams that, in the case of the better answers, were well annotated. On occasion the ridge itself was missing from both diagrams and explanation. A surprising number of answers dealt only with convergent plate margins for which no credit could be afforded.

Question 4

- (a) The manner in which most candidates approached and interpreted a fairly complicated map was encouraging. In (i) most correctly identified Bombay (Mumbai) and Lagos. In (ii) the growth of New York and Delhi were effectively compared when data support was provided and attempts to explain the differences were avoided.
- (b) Few candidates realised that the two components of population change: natural increase and migration were required for a full response. Many candidates wrote at some length and detail about one or the other and hence achieved only half the available marks. Another common error was to write about population change in countries rather than cities thus making irrelevant references to such things as child labour requirements in the rural economy. Reference was also often made to increasing birth rates rather than persistently high ones.

Question 5

- (a) The response to the topographical map was encouraging. Few candidates were unable to produce the simple line map that was required. There was no necessity to use more than one colour. Good maps combined an eye for shape with the ability to extract and represent relevant information from the topographical map. This included different types of road, railways, station and airport. These were either labelled on the sketch map or were indicated by a key. A small number of candidates misinterpreted the area to be represented and attempted to include the whole area of the map.
- (b) Many were able to produce adequate responses, but this part of the question was rarely well done. Better answers produced a narrative text (not a list) and were able to categorise evidence into evidence of tourist accommodation, sports and leisure facilities, access and the natural features that act as the main tourist attractions.

Section B**Question 6**

- (a)(i) Surprisingly few answers were able to define discharge or flow with any accuracy. Discharge was often given as the amount and flow as the speed of water in a channel. Few definitions referred to the measurement of volume at a point along a channel or the calculation of flow over time.
- (ii) Better accounts were able to identify and describe the impact of channel slope or channel shape or channel roughness. Weaker accounts merely referred to catchment area slopes.
- (b) Many accounts were limited by the inclusion of material relating to flows and stores within drainage basins which was more suited to part (c). Better accounts were those that focused on inputs and outputs, explaining evaporation and evapotranspiration, indicating the role of solar radiation and wind speed, as well as different forms of precipitation and the role of seasonal variations. The major omission from most accounts was that of channel (river) output from the catchment into oceans etc.
- (c) The key to good answers was the recognition of changes in land use (not just land use, as in urbanisation) and the role of stores and flows. Many answers merely dealt with flows in urban environments and then repeated the material in the context of deforestation. Good answers dealt with a variety of flows and stores in the context of differing land uses illustrating the outcomes by reference to variations in discharge.

Question 7

Not the most popular question in this section, but often well answered by those who chose it.

- (a)(i) Most successfully distinguished between the two forms of radiation although there was some confusion between long wave radiation and short wave radiation.
- (ii) Most answers chose to describe the greenhouse effect. This was generally understood in terms of the ability of greenhouse gases to absorb radiation. Less certain were those who selected the absorption and reflection of long wave radiation by clouds.
- (b) Land and sea breezes were effectively described in most answers. The diagrams were of varying degrees of accuracy, the most common omission was the returning air currents at height that complete the pressure cells. The differential heat capacities of land and sea were generally well described.
- (c) Urban heat islands were most commonly described with some success by most candidates. There are still a minority of answers, however, that ascribe the warmer urban temperatures solely to air pollution and anthropogenic sources. Also the scale of temperature variation between urban and rural areas is often vastly exaggerated. The other two climatic differences that were required by the question were far less confidently approached. Precipitation and wind speeds were most commonly cited although the explanation of higher precipitation levels stemming from increased convection due to higher temperatures was often poorly understood. Similarly, the impact of increased friction upon wind speeds in urban areas was often ignored. Variations in humidity led to considerable confusion between relative and absolute humidity and the causes and effects of the differences between rural and urban environments.

Question 8

Generally poorly answered.

- (a)(i) Carbonation was by far the most common choice and was more successfully defined than hydrolysis. Most cited the role of acidulated rainwater, although there remains some confusion on the chemistry of its impact upon limestone rocks.
- (ii) Many described the process of freeze thaw rather than outlining the circumstances under which it occurs. Even so, most were able to gain marks by reference to jointed rocks and the fluctuation of temperatures either side of freezing point in the presence of water.

- (b) The instruction to exclude climate as a factor was often ignored, giving rise to many answers that were predominantly irrelevant. Even those that concentrated on geology were frequently unable to develop rock strength and hardness, chemical composition, texture, joints or bedding planes.
- (c) Slope form was understood by very few candidates. Many answers were very short or completely undeveloped. The impact of vegetation and climate was partially developed by those who chose an approach to slopes via mass movement. Even here, few candidates were able to describe the impact upon slope form. Virtually no answers distinguished between slopes that characterise arid areas as against those found in humid areas. Most answers went little beyond describing the impact of vegetation roots in stabilising soils on slopes.

Section C

As this section is usually the last attempted by most candidates, it is here that evidence of poor time allocation is most prominent. This often resulted in partially answered questions or instances of haste leading to a misreading of the question. Hence, the mistaking of *internal* for *international* migration in **Question 9** and the exclusion of *environment* in **Question 10**.

Question 9

- (a) Most were able to define international migration although the range of typologies was often disappointing. Some merely offered the difference between emigration and immigration. Better answers described the distinction between voluntary and involuntary (forced) migrations. The best examples were those derived from contemporary contexts (Rwanda, Montserrat, etc.). Some answers did not distinguish between temporary and longer term migration. The context of migration is set at one year or more.
- (b) Candidates responded well to the data in Fig. 4 and produced competent and reasoned responses. The better answers built up suggestions in different dimensions notably, environmental (proximity and climate), political (nature of state laws), economic (job opportunities and cost of living) and perception (family ties, discrimination). Weaker answers merely contrasted the respective sizes of the states.
- (c) Many answers were able to develop a range of possible outcomes on the source community. Better answers were those that balanced negative with positive outcomes. Hence the positive effects such as those of lower population densities or increased income from remittances could be set against the negative aspects of population imbalance or the loss of active populations. Weaker answers concentrated on only negative aspects in terms of greater dependency ratios.

Question 10

- (a) Counterurbanisation was widely understood and defined with some accuracy. Reurbanisation was far less well understood. Many gave a description of the latter term simply in terms of general urbanisation. The origins and destinations of both movements could have been more clearly stated in terms of location than vague references to 'the urban area'.
- (b) Some candidates were hampered by their lack of understanding of reurbanisation. Good answers did recognise both the negative externalities of rural dwelling as well as the positive attractions of reurbanised areas. Many answers were able to point to the impact of government investment in renewal and the development of up market accommodation and leisure features in inner city areas.
- (c) Better quality responses were those that paid strict attention to environmental impacts of counterurbanisation, which they were able to demonstrate by the employment of good exemplification. Weaker answers were those that merely discussed the process of counterurbanisation in vague terms looking at social, demographic or economic effects.

Question 11

- (a) Most candidates had a reasonable conceptual grasp of low and high order goods, but few included services within their descriptions (low order services – e.g. postboxes or primary schools; high order services – e.g. hospitals or airports).

- (b) Many answers produced only a single location such as corner shops rather than exploring a range of possible locations (e.g. from hawkers, market stalls, supermarket, kiosks, etc.). Better answers explained these locations in terms of profitability, accessibility, convenience and even in terms of good range, threshold and bid rent.
- (c) Many answers were hampered by lack of time thus curtailing their accounts. Better quality responses examined why businesses selling high order goods are leaving central locations in favour of peripheral or nodal locations. Emphasis in explanation was put upon increased use of cars, relative locational costs and consumer behaviour and preferences (as expressed through the development of shopping malls).

<p>Paper 9696/02 Physical Geography</p>

General comments

The response to this year's examination was somewhat disappointing in that relatively few candidates were able to perform consistently across both of the questions. There were many incidences of excellence in parts of, or indeed whole, questions but this rarely extended to both of the questions.

The allocation of time was also often inadequate. Many candidates devoted the bulk of their time to parts of questions that were worth 10 marks whilst providing short and insubstantial answers to parts of the question worth 15 marks. The balance between questions was also uneven in terms of attention and time. Thus the first answer often appeared to have absorbed three quarters of the time allowed. This suggests that candidate had not adequately prepared across both of the selected optional environments.

Particularly disappointing was the treatment of sustainable management in physical environments. This appeared in questions in two environments, coastal and hazardous. In both cases candidates were able to define sustainable management but were unable to develop it in the context of examples or a case study. Indeed throughout the paper few candidates were able to make effective use of case studies.

In those questions that included stimulus material, most answers paid attention to the data provided but often regurgitated the material without comment or interpretation. Only in the case of coastal environments did candidates consistently reinforce the data provided with additional material.

Soils both in arid and tropical environments were something of a disaster area. Not only do few candidates recognise common tropical soil types (e.g. latosols, oxisols, vertisols, aridisols), they are unable to provide even general descriptions of their nature.

Comments on specific questions

Tropical Environments

Question 1

Not the most popular of options. Candidates tended to divide equally between the two questions although generally the responses to **Question 1** were the stronger.

- (a) The term, Inter Tropical Convergence Zone was generally understood, with better candidates able to relate it to equatorial low pressure and an aspect of the Hadley cell. Many, however, saw the ITCZ as merely a meeting of trade winds and hence were unable to associate it with low pressure or convectional uplift. Good explanations of the weather associated with the movement of the ITCZ displayed a clear understanding of seasonal climatic changes as the overhead sun progressed north or south of the equator. Rainfall was shown to decrease with the onset of a dry season and the impact of convectional rainfall was explained. Weaker answers lacked any explanation of rainfall and sometimes were entirely concerned with a description of the monsoon which, whilst of relevance, was rarely explained.

- (b) Most answers explained climax and plagio-climax by reference to stages within the development of a prairie. Indeed, some answers did not extend beyond a description of vegetation succession. Descriptions of climax vegetation were usually successfully given in terms of the Tropical Rainforest. Plagio-climax vegetation, however, was far less well understood. Some saw it as the destruction of climax vegetation (i.e. TRF) leading to soil erosion or to the development of agriculture. Few were able to describe any secondary forest vegetation (e.g. that developed in abandoned slash and burn clearings) or to give any detail regarding the development of savannah grassland.

Question 2

- (a) This part of the question was often very poorly answered. Very few candidates displayed any knowledge of tropical soils or of the nature of a catena in the tropical savannah. Many answers merely described the soils in terms of the vegetation shown in Fig. 2. They assumed that the trees defined relative fertility as against the grass/shrubs of soil B. The location within tropical savanna was completely overlooked. The few good answers recognised the significance of slope location in the development of latosols or oxisols at the top of the slope. Here leaching can lead to extreme weathering of minerals and subsequent infertility. The foot of the slope was characterised by the accumulation of materials from the slope leading to the high clay content of vertisols which are subject to cracking as shown in Fig. 2. Some candidates managed to gather some marks by suggesting soil water movement along the slope.
- (b) This was probably the reason most chose this question and indeed most candidates spent much of the time on this part after a very cursory attempt at (a). There was a considerable range of quality. Good answers, of which there were many, related the high temperatures and ample rainfall in the humid tropics to the dominance of chemical weathering. Weathering processes such as hydrolysis and carbonation were described and landforms competently treated with accounts of deep weathering and the exhumation of inselbergs, tors, etc. in areas of crystalline rock. Other good answers, particularly from the Caribbean, were able to develop accounts of tropical karst. In both cases, these answers recognised the importance of joint control in the weathering processes. Weaker answers claimed that mechanical weathering dominated and gave detailed accounts of thermal fracture and freeze thaw. Chemical processes were ill defined confusing solution with carbonation and hydrolysis with hydration. Landforms were either ignored or treated superficially (e.g. caverns and stalactites as the principal landforms of tropical karst).

Coastal Environments

A popular choice of option, particularly with Caribbean and Kenyan Centres.

Question 3

- (a) Many candidates were able to deal effectively with *either* the conditions required for coral growth *or* the effects upon coral of changing sea level. Few, however, were able to combine these to produce a full answer to the question. Many who wrote about conditions favouring coral growth merely assumed the death of coral due to rising sea levels. No consideration was given to the possibility of continued growth keeping pace with sea level rise or the consequences of a fall in sea level. The 'continued existence of coral reefs and atolls' was ignored by those candidates who chose to develop sea level change within the context of the models suggested by Daly, Darwin and Murray. Some accounts did make reference to the possible consequences of global warming, but these were often seen as merely cataclysmic. Most candidates, however, were able to gain reasonable amounts of credit and there were a number of excellent responses.
- (b) Many good definitions of sustainable management were given, but attempts to put the definition into practice within a coastal environment were far less successful. Too often candidates described all varieties of coastal protection device (groynes, rip raps, gabions, etc.) with examples drawn from a number of locations, but without reference to either a 'coastal area you have studied' or to sustainable management. Some answers were able to develop efforts to prevent erosion along a particular example of a coastal stretch but were unable to explain either the coastal processes operating or make any assessment of sustainability. Often detail in these examples was good, but the diagrams were rarely accompanied by a locational map that gave indications of drift, wave processes geology, etc. It was encouraging, however, that many Centres are utilising local examples, often demonstrating evidence of field work and personal observation.

Question 4

- (a) More candidates were able to make effective use of the information in Fig. 2 than was often the case in other stimulus material. Even so there were a number of weak answers that merely rewrote the diagram with unexplained references to onshore currents, deposition in estuaries and no account of the operation of transfers. Others spent too much time in detailing the processes that brought about cliff and river erosion, but never showed how the stores and transfers of the resultant sediment related to beach formation. Good answers were able to describe both the sources of sediment and to relate those through the transfer of materials by long shore drift and constructive waves to the formation of beaches.
- (b) Weaker answers often had given a full account of constructive and destructive waves in (a) and merely repeated the same material here. Too few candidates realised that the *rate* of coastal erosion is essentially about wave energy and that fetch, wind duration and speed were fundamental. Often too much time was devoted to the processes of marine erosion (pounding, hydraulic action, quarrying, solution) without reference to effects on the rate of erosion. Some did successfully contrast the strength of wave attacks on headland with loss of power in bays. Similarly, diagrams of cliffs, caves, blow holes, stacks and stumps made no reference to geology. Geology was often ignored or very poorly attempted with many accounts going no further than vague references to hard and soft rocks. Some responses did recognise the importance of jointing and bedding planes, but attempts to relate dip to rates of erosion were often confused or erroneous.

Hazardous environments

The most popular optional environment and probably yielding the highest proportion of good answers.

Question 5

- (a) Answers were generally competent as most were able to describe some forms of rapid mass movement and outline the circumstances under which they might become hazardous. On occasion too much time was spent on this latter part of the question by developing detailed accounts of the incidence and impact of a particularly hazardous mass movement. The weakest element was in the explanation of the circumstances that could lead to the development of rapid mass movement.
- (b) A considerable range of quality was evident in these responses. As with coastal environments many could define sustainable management but were unable to develop it in the context of a strategy or strategies within hazardous environments. Many responses listed various responses to particular hazards, such as a-seismic buildings or hurricane shelters, but never considered their role within an overall strategy. Better answers were those that detailed responses to hazardous environment such as those on California, Japan or the Philippines. They were able to make an assessment of the level of sustainability in the light of an actual occurrence of the hazard (e.g. Kobe or San Francisco earthquakes; Mount St Helens or Mount Pinutabo volcanic eruptions). Other successful answers contrasted the strategies developed in MEDCs with those possible in LEDCs.

Question 6

- (a) Many answers merely repeated the data given in Fig. 3 without either sequencing the material or relating the type of eruption to the actions taken. Merely repeating material that has been provided can only be afforded very limited credit. Better responses were those that were able to describe the type of eruption, comment upon their hazardous nature and hence assess the methods employed to monitor the progress of the eruption and the consequent actions taken.
- (b) A wide range of quality was evident in these answers. Weaker answers to (i) gave little explanation of the causes of volcanic activity accompanied by crude diagrams of convergent plate margins. Better answers showed awareness of the range of circumstances under which volcanic activity took place (including hot spots) and were able to produce credible and well annotated diagrams. In (ii) weaker answers merely regurgitated the unexplained material from part (a). It was perfectly acceptable to utilise the example to the prediction methodologies suggested in Fig. 3, but these clearly required both extension and explanation. Many were more confident with attempts to limit the effects of volcanic activities and were able to write about lava diversion, education and evacuation in the light of successful prediction of volcanic events.

Hot arid and semi – arid environments

The least popular of the optional areas and one that yielded many of the least successful answers.

Question 7

- (a) Candidates were generally able to describe the three methods of wind transportation in desert areas. Detailed explanation, however, was more variable. Better answers were able to give appropriate grain sizes and wind velocities. The response to the explanation of dunes was very disappointing often amounting to little more than a single sentence appended to the end of the answer. Good answers spent half the account on dunes and were able to relate different types of dune to the operation of wind transport and wind direction. This was illustrated by clearly annotated diagrams.
- (b) Some candidates misread the question and wrote about the impact of human activities on the environment, usually in the context of desertification. Many were able to outline at least some of the environmental conditions found in hot arid areas but found it far more difficult to relate these to human activities taking place. Even reasonable accounts of nomadism or the cultivation of desert margins at times failed to give any exemplification. Some of the better accounts were able to develop the environmental conditions of Californian deserts or of Egypt and describe the impact these have had upon the human occupation of these areas. Irrigation was seen as one response but not necessarily the most successful.

Question 8

- (a) As with other questions using stimulus materials, a significant proportion of the answers merely rehashed the material provided without expansion or explanation. Better answers displayed some knowledge of past pluvial periods and were able to demonstrate how the present environment differed from that in the past. Some accounts contrasted the operation of geomorphic processes today with those suggested by the evidence of a wetter past. Successful answers were those that could use the material provided to substantiate their arguments for past pluvial activities.
- (b) Vegetation in arid areas is clearly much better known than soils. Most accounts could at least provide some detail of the xerophytic nature of the vegetation, whilst good accounts demonstrated vegetation adaptations to a range of hot arid conditions. Soils, however, remain woefully appreciated. Many accounts could do little more than suggest that arid soils were sandy. Good accounts gave descriptions of soil salinity and the capillary action that brought mineral salts to the upper levels. Many erroneously associated desert soils with intrinsic fertility, overlooking their alkalinity and lack of organic materials. The best answers were able to give examples of different types of aridisols and explain their deficiencies in terms of nutrient supplies.

<p>Paper 9696/03 Human Options</p>

General comments

The overall performance of candidates was broadly comparable with last year's June examination. Marks for this component were awarded in the range of 0 (where a blank sheet of paper was returned), through single figures for one or two fragmentary responses, to marks in the mid-forties out of 50 for some exceptional perceptive and well-supported work under examination conditions. There were, however, relatively few very good scripts as candidates found it difficult to maintain a consistently high quality of response across both questions selected.

Examiners noted that while many Centres are preparing candidates appropriately for the skills-based elements of the paper, such as the interpretation of the figures in the Insert, and for questions involving evaluation and decision making, it appears that some Centres may continue to see this as a knowledge-based examination. For the relative importance of *Knowledge, Understanding, Skills and Enquiry* and *Evaluation and Decision Making* in the allocation of marks on this paper, reference is made to the Assessment Objectives given on page 5 of the syllabus.

There was a wide spread of syllabus topics across the entry, with evidence that many Centres teach three of the four topics, rather than the two which are absolutely necessary, to give candidates a wider geographical education and to enhance their choice in the examination. Of the four topics it appears that fewer Centres teach **Economic transition** but apart from that that coverage of the syllabus is quite even.

In terms of numbers of responses to questions seen, within the topic **Production, location and change**, this season **Question 10**, on industry was more popular than **Question 9**; both questions in **Environmental management** and in **Economic transition** received comparable attention; but **Question 14** on tourism maintained its very popular position within **Global interdependence**.

A high proportion of candidates failed to provide two complete responses and therefore limited their overall achievement. Examiners recognise that most candidates are likely to attempt Paper 3 after Paper 2 in the 3 hours available. It should be noted that it is always preferable for candidates to leave notes, bullet points or an answer plan for that part or those parts of questions which they are unable to complete, rather than simply a blank, as some credit can be given for the potential shown.

There were few rubric errors, about 1%. Those of particular concern occur where a candidate answered both questions despite the clear instructions on the cover of the question paper and underneath each topic heading. In this circumstance only the better of the two marks can be taken (i.e. the maximum allowed by the rubric).

There were few problems with candidates' use of language or expression, both across the spread of countries entering candidates and across the ability range. Examiners did not report any particular difficulties with the terminology or phrasing of questions; most misconceptions appearing to arise from faulty understanding or examination pressure or both. There are, however, the following areas that can be usefully identified for teachers working to improve candidate performance.

Firstly, it is wise to make the length of an answer (and therefore the time spent on it) reflect the mark allocation. Many parts **(a)** bearing 10 marks were far longer than parts **(b)** with an allocation of 15 marks.

Secondly, command words in questions need to be followed closely. This is true most often with the difference between 'Describe' and 'Explain' and with the need for evaluation in questions beginning, with such words as 'Assess' and 'To what extent'. It should be noted that beginning a part **(b)** with one sentence including the phrase 'to some extent' or 'to a certain extent' is not adequate in an otherwise descriptive response and will achieve a Level 1 award. By contrast, one of the characteristics of Level 3 responses may be that the whole response is structured as an assessment which weighs one element against another and provides ultimately an overall opinion.

Thirdly, candidates need to direct their responses in the same direction as the question set, using skills of selection and application of knowledge. This is particularly true when a question requires a specific angle on a subject which may not have been taught in that manner, for example, **Question 9 (b)** on farmers' attitudes and **Question 12 (b)** on the role of finance. Examiners sometimes note that candidates were answering a different question, which may be one they had written an essay on previously, for instance, in both the above cases, on whether the change was a success or not. Furthermore candidates should resist the urge to display learned material and knowledge which is not relevant to the question, no matter how good or important they consider it to be, nor how much effort they put in to learn it.

Fourthly, examples are needed, as stated in the instructions on the cover of the paper, whether specifically asked for in the question or not. In this examination many good answers to **Question 10 (b)** and to **Question 14 (b)**, for example, were restricted by their generality and failure to support the points made with exemplar content which was named and located rather than simply generic. To explain, for example, a generic example of the environmental effects of tourism for **Question 14 (b)** would be on coral reefs, a named and located example would be the Great Barrier Reef off Australia's eastern seaboard.

Fifthly, in the interpretation of the figures, candidates need to recognise that at A Level a figure is likely to have both a lower order demand and a higher order demand, with higher marks only being awarded if the higher order demand is recognised and, at least in part, met. So for instance, in **Question 10 (a)(iii)** 2 marks were given for observations such as that the accessibility of sites is relevant to communications and that whilst many firms surveyed identified, say, road communications as a strength (about 55%), some identified it as a weakness (19%). The second point demonstrated an appreciation of the nature of surveys as a source of geographical information. Further instances of the lower and higher order interpretative demands were found in **Question 11 (a)(ii)** and **Question 13 (a)(iii)** and are commented on below.

Finally, and also in connection with the figures provided, weaker candidates tend to rewrite the information as the substance of their response. This season this was particularly noticeable in **Question 13 (a)** but there were also many cases, at the lower end of the ability range, where candidates attempted to use the figure provided for one part of the question to answer another. This was true both in **Question 10 (b)** when the headings from Fig. 5 reappeared as the answer and in **Question 13 (b)** where North America became the subject, sometimes rendered as “USA” after a crossing out. Very few, if any, marks are available within Level 1 for an approach which shows the candidate’s lack of independent knowledge and dependence on what is provided.

Comments on specific questions

In each question part **(a)** was marked out of 10 using a combination of point marks and impression marks, which are reflected in the comments that follow.

In each question part **(b)** was marked out of 15 marks using level descriptors for Levels 1, 2 and 3. Where reference is made to Levels, the following mark bands apply: Level 1, 0-6 marks; Level 2, 7-11 marks; and Level 3, 12-15 marks.

Production, location and change

Question 9

Many candidates found both terms in **(a)** difficult to define although they are in the syllabus and this may have influenced a proportion of candidates towards the alternative question. In **(b)** the challenge was to approach a familiar subject, the intensification of agricultural production, in an unfamiliar way, focusing on farmers’ attitudes as well as introducing other factors.

- (a)(i)** Most candidates confused *agricultural productivity*, how efficiently an agricultural system produces output from input, with output itself or agricultural production, how much is produced. Agricultural productivity may be expressed in a number of ways, all of which relate input and output somehow, for instance, per unit area (hectare), per unit labour (per worker or man-hour) or per unit capital.
- (ii)** The second term also explored the relationship between input and output through one type of agricultural system. In the meaning of *intensive agriculture*, most candidates recognised that it is large scale or involves large land areas but found it harder to express relatively low inputs and output clearly. Some found simple diagrams using squares to represent scale for labour (small), capital (small or moderate), land area (large) and output (small or moderate) effective here. There was some confusion with intensive agriculture and others identified extensive agriculture too readily with just one extensive system. The plantation was not an acceptable example, being both labour and capital-intensive but involving large units of land. Candidates found it straightforward to identify two ways in which extensive agriculture may be intensified (altering labour input or capital input somehow or the land area worked) e.g. by mechanisation, irrigation or the adoption of HYVs but in many cases these ways were not well-developed. High quality answers did develop them using one or two named and located contexts such as wheat farming in the Canadian Prairies or cattle ranching in Sub-Saharan Africa.
- (b)** Many classic case studies of agricultural intensification cite resistance to change or traditional attitudes as one of the factors limiting success. Most candidates were able to address the issue of farmers’ attitudes to some extent, even if the material had not been taught in this manner. Some bold candidates adopted a different approach; some focused on the positive attitudes of farmers, through profit motivation, dissatisfaction with traditional ways and lifestyle, or government-sponsored education and training through agricultural extension, whilst others, being relatively dismissive of farmers’ attitudes identified one or more other factors as key e.g. land quality, water availability, market and pricing issues, indebtedness or catastrophe (drought, corruption, war, etc.).

In all answers, indicators of quality were the level of detail offered from the attempts made in the selected country, the ability to identify and discuss other contributory factors and the amount and quality of assessment offered.

Question 10

Examiners reported positively on candidates' approach to Fig. 5. The region was the UK's West Midlands.

- (a)(i) The vast majority of candidates identified the three main weaknesses correctly as image of region, availability of grants and education and achieved 1 mark. A small proportion read the lower end of the right-hand diagram rather than the upper end and a number of keen candidates wasted time by offering unnecessary description.
- (ii) In terms of geographical understanding, the full range of ability was shown here in relation to any one of the three weaknesses in Fig. 5. Whilst large numbers of candidates chose each one, education was the most popular and identified readily with such issues as skills levels for the operation of machinery and quality control, training and the costs to firms of training workers, literacy problems in following instructions and, perceptively, in an MEDC, schools for the children of workers especially those of management and decision-takers. Examiners appreciated links made to business profitability and answers which showed an understanding of the location decision-making process, such as how factors are weighed. Some used examples creditably, particularly in relation to the availability of grants.
- (iii) This was the least successfully answered part of (a). Many candidates achieved just 1 mark of those available, in effect listing by rank road, air, rail and telecommunications without the information from the figure that was required, i.e. data support, or any further observation (see fifth general comment above).
- (b) Responses varied greatly in quality. Some candidates appeared not to be familiar with the term *industrial estate*. Weaker candidates who received Level 1 awards wrote in terms of industrial location in general rather than an industrial estate in particular, usually by considering factors of production, some of which, such as land, were more relevant than others, such as proximity to raw materials (as opposed to components). Better answers in Level 2 were identifiable with industrial estate location through such observations as available factory units, on site linkages or the provision of power supply, waste disposal or security. Many examples remained generic, such as tyres for car assembly, or were too loose to credit such as 'China'. Within the term industrial estate material relating to export processing zones (EPZ) and to science parks was admissible, although most candidates stayed with the core idea of the estate. Level 3 responses used at least one named and located example, often supported by a sketch map or diagram of linkages and by detailed knowledge of that industrial estate or industry, some of which appeared to be derived from fieldwork, commendably. They also demonstrated the complexity of industrial location-decision-making, the importance of profits and gave a sense of the contemporary scene, such as government programmes and incentives or the negative externalities of industrial location in traditional areas such as close to the CBD.

Environmental management**Question 11**

Whilst (a) was accessible for most candidates, the breadth of perspective needed in (b) challenged many.

- (a)(i) Candidates achieved the two marks straightforwardly, interpreting the pie charts well and naming the Middle East or CIS and Eastern Europe, then North America, Western Europe or Asia and Australia. It provided a helpful lead in to the rest of the question.
- (ii) Most candidates described the dominance of the Middle East and Latin America's second place. Some also described the lowest holder of reserves, Western Europe. A full answer, for 5 marks, required data support, using percentages (there was no need to multiply out million barrels) and some further interpretation of 'main features' such as the limited reserves of the main consumers or that LEDCs had the bulk of the reserves whilst MEDCs consumed the most.
- (iii) Most candidates were able to achieve the 3 marks here by describing two potential negative environmental effects. As the question was about the oil industry, the effects needed to be connected to the oil's extraction, processing or transport, not to its use as a fuel. As such a response on emissions from refineries and their contribution to low air quality or global warming was creditable but one on the combustion of oil in power stations or vehicles with similar outcomes, was not. Many candidates described oil spillage during transport as one effect, the best answers describing its impact in some detail e.g. on coastal environments and/or the marine ecosystem, perhaps in the context of a specific event such as the Exxon Valdez disaster off Alaska.

- (b) The question broadened from oil to energy consumption in general and was answered reasonably well, some candidates using knowledge of home country, if LEDC, as a vehicle for the explanation. Whilst this was good, for a Level 3 award an appreciation of the diversity of LEDCs was needed, whether NICs with higher and rising demands, countries experiencing rapid development and industrialisation such as China, or those which have oil resources such as the Middle East, Venezuela or Nigeria. More successful responses were LEDC rather than MEDC-led; whilst MEDC content could provide useful comparisons, some responses simply and inadequately portrayed LEDCs as the opposite or relied too much on negative reasoning. Some candidates who produced comparative explanations of MEDC/LEDC, not required by the question, gave insufficient attention to LEDCs as a consequence. Better candidates focused on the word consumption in the question and considered the scale and nature of demand from different sectors; industry, transport, domestic, agriculture and perhaps tourism; maybe making rural/urban or rich/poor contrasts effectively. So the observations that in a named country 70% of the population lives below the poverty line or that in another 80% of the land area is not yet served by electricity were useful. There was also some perceptive treatment of traditional lives, traditional energy sources such as fuelwood or animal dung and the simple irrelevance of modern energy sources to those who are subsistent, nomadic or isolated. Candidates were rewarded for recognising that along with these demand factors are mixed supply factors. For supply, beyond the three main factors of (low) capital, skills and technology, some candidates developed good explanations of the crushing debt burden on LEDCs, of corruption or of other priorities for government spending such as civil war or education and health for young and growing populations.

Question 12

Responses to (a) were satisfactory to good, although the definition of land pollution challenged most. In (b) candidate performance again demonstrated the management of a degraded environment as one of the most accessible parts of the 9696 Syllabus to candidates from all parts of the world.

- (a)(i) The term *land pollution* means contamination of the earth's surface by the unplanned or illegal disposal of waste substances or materials. It should be noted that it was not acceptable to use the words land and pollution again in giving its meaning: substitutes or alternative words and phrases had to be found (as is the case with all questions of definition).
- (ii) If the definition was appropriate, most candidates found no difficulty here in identifying two ways in which land pollution occurs, although the detail and expression were variable. Some included wrongly other media (air and water) or ways in which environmental degradation occurs, rather than land pollution as such, for instance deforestation, or the scars and holes which result from mining, rather than the spoil heaps or waste. Usual responses were about littering by the public or the dumping of industrial wastes.
- (iii) Examiners were pleased by the variety of environmentally-friendly options offered here and the awareness shown of the issue of landfill by candidates. Most common answers were recycling certain products such as glass bottles and jars, aluminium cans and paper; incineration (sometimes with comments on the undesirability of particulate emissions); and composting organic matter to produce fertiliser. It was not acceptable to suggest dumping the material at sea, launching it into space or paying another country to take the waste, all of which simply relocate the problem to another environment.
- (b) Nearly every candidate had a suitable environment to use. Some were less satisfactory than others; for instance a named place of moderate proportions at local scale always performed better than the supranational scale, such as the Sahel, and the national scale, such as Japan, although there were some quite successful responses at city scale, for instance on Cairo or Delhi. Consideration of finance involved such issues as its source (international, government, aid agency, EU, private donors, etc.); its timing (one-off, phased, discontinued, overdue, etc.) and the economic and political context (corruption, debt, tied aid, currency fluctuations, etc.). Responses which were rewarded within Level 1 tended to be descriptive rather than evaluative with limited place detail and made only broad comments on finance. Level 2 responses were sounder and more convincing, may have mentioned other factors such as the role of individuals or community organisations and offered some detail of what was done to the degraded environment. Awards in Level 3 were made to those candidates who directed their response well, drawing on very good knowledge of a case study and who assessed the role of finance and at least one other factor effectively, most concluding that finance whilst clearly very important was not the only thing to take into account.

Global interdependence**Question 13**

Some good use was made of Fig. 7 in part **(a)** but some candidates found the depiction of North America confusing with its global fragmentation and the loss of distance.

- (a)(i)** Candidates identified North America's main trading partner as the Caribbean and Latin America easily in **A**, but some found the import/export arithmetic difficult in order to produce Australia for **B**.
- (ii)** Most candidates appreciated that the nature of products from Africa imported by North America would be primary products, raw materials or some processed or semi-processed goods. For full marks a little development or some examples were needed such as coffee, tropical fruit or gold, but whereas some candidates located these, such as 'diamonds from South Africa', this was not required. Whilst only representing small sums comparatively, African craft goods were acceptable.
- (iii)** Most candidates achieved the lower order demand here, recognising that there is some distance-decay visible, using the Caribbean and Latin America as the evidence, but many overstated this as an absolute relationship solely based on cost. More aware candidates saw a more complicated picture emerging, given the strength of trade with, say, Asia and the Middle East (in products ranging from hi-technology to oil) attributable to a number of factors including trading blocs, political decisions and the nature of the products themselves.
- (b)** Whilst there were some very good answers here, often considering not one trading strategy but different phases in a country's trade, many candidates produced answers that were quite descriptive, from which little sense of the strategic could be derived and in which assessment was limited. There are certain types of examples which perform better as case studies for trade, of which NICs would be one and home country another (perhaps because of familiarity and interest for the candidate and because of the availability of information). Generally speaking Centres are wise to avoid cases which are large and complex such as the USA and historical studies such as of Britain in its colonial period are inappropriate as the syllabus specifies since 1960. Better answers, achieving 10 marks and more out of 15, in Levels 2 or 3, covered both imports and exports, but not necessarily in a fully balanced manner, and visible and invisible trade. The text was supported by naming products and/or producers and by data, usually expressed in percentage or currency terms. The evaluation of success usually included a consideration of trends in the balance of trade, of standard of living and economic development, for instance in the protection of domestic industry or the attraction of investment from TNCs.

Question 14

A large proportion of candidates failed to focus on the words 'societies' in **(a)** and 'environmental' in **(b)** and consequently made somewhat irrelevant responses, notably by the inclusion of economic material.

- (a)** The High Atlas Tourist Code in Fig. 8 was a stimulus to get candidates thinking about some of the implications of tourism for the societies of tourist destinations and as such it was possible to achieve full marks without reference to it. Most candidates were able to describe a number of positive and negative impacts suitably. Stronger answers were supported by named and located examples and in some cases by data. It was often recognised that a positive such as employment in the tourist sector bringing in income to a household has associated negatives, such as disruption to family life, low pay, seasonality and vulnerability to market downturn after terrorist attacks. There were also some perceptive and balanced descriptions of how culture may be impacted both positively and negatively, whether in the preservation of and pride in traditions or conversely in the "westernisation" of LEDC society. It was pleasing to note the mature way in which candidates assessed the frailty of human nature as an inevitable consequence of the growth of the tourist industry and access to wealth.

- (b) Examiners noted that it is encouraging to come across a growing appreciation of some of the positive environmental impacts of international tourism, whilst acknowledging the considerable negatives. These positives may be arranged into a number of broad categories, for instance, improving tourist destinations e.g. beach cleaning, planting trees or dealing with eyesores; preserving important sites whether a historical monument, a heritage zone such as a waterfront or wild areas such as a national park; controlling future development and eco-tourism. Better approaches to the negative impacts proceeded by accumulating evidence of their diversity and scale offering exemplar support for each. Weaker candidates either produced very general answers about, say, beaches, coral and unspecified pollution or repeated themselves when moving from one location to another. Some candidates put their responses on the strong conceptual basis of sustainability and carrying capacity or linked them to the potential environmental impacts of the different phases of Butler's model. A few considered in their assessment whether upgrading environments degraded by tourism is really a positive compared to ensuring that they are not damaged in the first place, or weighed the adverb 'rarely' in the question perhaps offering an alternative.

Economic transition

Question 15

The response to an intriguing data set in (a) and to the 'big picture' demand of (b) was quite encouraging.

- (a)(i) Some candidates found interpreting the divergent bar graph hard, especially as, with the exception of Eastern Europe and the CIS, all world regions appear on both sides, with some countries experiencing higher incomes than previously and some lower incomes than previously. Credit was given for the rather better off regions that is the MEDCs and Asia; the worse off, Eastern Europe and the CIS; and for recognition that all the other regions had a mixed outcome. A full answer required some data support using the approximate number of countries affected.
- (ii) This part was answered from knowledge and did not relate to the figure other than through the issue of income per person. Most candidates were aware of core issues such as the use of averages or disparity in income distribution within countries where there are small élites and large impoverished populations. Some were able to go on to consider such issues as purchasing power parity, currency fluctuations, psychic income and well-being or social development as reflected in the Human Development Index (HDI) or other multiple-criteria measures.
- (b) Candidates were more ready to make a strong and catastrophic explanation for the situation shown in Fig. 9 than they were to consider the outworking of globalisation in the global economy, but the best responses included elements of both. The explanation operated in any or all of four dimensions: economic, such as world recession or the debt crisis in LEDCs; social, such as population growth or the impact of AIDS in Sub-Saharan Africa; political, such as civil war or regimes' changing; environmental, such as hazardous events or desertification. A consideration of globalisation might have included the repatriation of profits, the international spatial division of labour and the growth of the economies of NICs. Level 1 responses included misinterpretations of Fig. 9, those who had gone for a single factor explanation to this more complicated issue and those who offered no effective examples. Level 2 responses were sound but limited either in the explanation given or in the examples offered or both. Level 3 responses did not need to be fully comprehensive, given the massive potential of the subject, but impressed by the detail of examples used for support and by the quality of the explanation in terms of concepts used and insight shown.

Question 16

In (a) both terms were understood satisfactorily by most candidates, but in (b) few focused on 'the difficulties' well enough to achieve high marks, most reproducing their case study in a more generally descriptive manner.

- (a)(i) The term *initial advantage* means a favourable circumstance existing from the start, before development, by which development is triggered in a location. Classically these include a mineral resource, a natural harbour or fertile soils and attract development to that location before and over any other. Candidates could use an example to assist the explanation but this was not needed. Some responses went too far in considering cumulative causation and derived or acquired advantages rather than simply initial advantage.

- (ii) In the context of regional development *spread effects* transfer and extend economic growth and development from the core into the periphery. Growth 'trickles down' or literally spreads spatially by transfers of capital, enterprise, population, etc. This may happen as a result of diseconomies of scale in the core, of negative externalities such as congestion, or as the result of government initiatives to balance regional development. Again, some responses went too far by considering backwash effects also.
- (b) It seems that most candidates were prepared for a question on whether regional development was successful or not but that they found it hard to identify and examine difficulties the government faced.

So, for example, many candidates wrote on the Cassa per il Mezzogiorno in Italy quite reasonably but few picked out difficulties such as the relatively advantaged position of Italy's North and the disadvantaged position of the South relative to the European core region or the pervasive influence of the Mafia in the life of southern Italy. Likewise with Brazil, another classic study, whilst there was some clear knowledge and understanding of initiatives both urban and rural, difficulties such as national indebtedness or rising global concern for the Amazonian rainforest seldom emerged. It was also the case that because of the problem in identifying difficulties there was little assessment of the extent to which they had been overcome. This limited otherwise solid responses to Level 2 overall.