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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

Candidates coped with the demands of the paper in a competent manner. The response to the data based questions was often mixed, but did display an awareness of the nature of such questions and the importance of close inspection of the data provided. It is quite possible to achieve full marks on questions in **Section A** of the paper by close observation of the data and careful attention to the question's command and key words. Few candidates, however, were able to achieve this with any degree of consistency.

The preparation of candidates seemed well balanced between the physical and human cores. In terms of understanding, atmosphere and weather remains the least well comprehended area of the syllabus. The marks for **Question 2** were generally the lowest recorded in **Section A** and some candidates failed to attempt the question at all. In **Section B**, **Question 7** was the least popular.

Although some candidates are clearly being trained in time management, many are still not fully completing the seven answers required by the paper. This appears to be largely due to candidates spending far too much time on parts of questions that yield relatively few marks. Common causes of this were:

- Writing explanatory accounts where only description was required (part **(a)** of the **Section A** questions).
- Redrawing diagrams that had already been provided (**Section A** questions).
- Providing textual description and explanation where only a labeled diagram was required (**Questions 6 (b), 7 (b) and 8 (b)**).
- Writing over-long, tangential and irrelevant accounts that reflected more what the candidate wished had been asked than the actual question (most evident in the human geography **Questions 4 (b), 5 (b), 9 (c) and 10 (a)**).

There were very few rubric errors and the standard and use of English was very good. It was clear that the majority of candidates had been well prepared for the examination in terms of syllabus content and example material. Some candidates were able to use their real-life experience and their geographical experience of it to good effect in the human geography questions.

Comments on specific questions

Section A

Question 1

Candidates appeared to have experienced few problems with this question as there was evidence of good levels of understanding.

- (a)** The material was familiar, and most candidates were able to identify infiltration and percolation although some candidates wasted time by providing explanations and descriptions which were not required.

Impermeability of the surface, saturation of the soil and rainfall intensity in excess of infiltration capacity were most commonly correctly identified. Those who lost marks did so by failing in an attempt to distinguish between Hortonian and saturation overland flow or those who merely described two different forms of surface impermeability (e.g. concrete and tarmac).

- (b) The weakest part of most answers. Surface storage was sometimes confused with interception and overland flow. Some even described channel flow. Soil moisture storage was rarely described in terms of being held in the pores or capillaries between soil particles. Descriptions of throughflow and percolation were not required.

Question 2

There were few excellent answers and many that achieved very little credit.

- (a) Very few answers successfully identified convergence although more recognised convection.
- (b)(i) This was more successfully answered as some candidates were able to describe, to some extent, the process of convergence from the diagram without being able to identify the process. The better responses often couched this in terms of the ITCZ. Convection was better understood although the expansion of air after surface heating, making it less dense, was often not identified.
- (ii) Many were able to associate convective uplift with the formation of cumulus clouds and the possibility of rain. The more observant were able to point to the weakness of convective uplift displayed and the return of the uplifted air giving rise to conditions of stability. Either of these explanations was acceptable.

Question 3

Responses were very mixed. This is clearly a popular area of the syllabus but candidates often lack understanding and find plate tectonics difficult to explain under examination conditions.

- (a) Most candidates managed to identify at least one difference and one similarity between the diagrams, many achieving full marks. The main problems were recognising the two types of plate (continental and oceanic) and confusing the terms subduction, convergence, and destructive margin. Some even represented one diagram as a constructive margin and the other destructive. Nearly all answers identified different landforms (island arcs and fold mountains) and the similarity of ocean trenches.
- (b) The explanation of the processes involved in the creation of fold mountains and ocean trenches was generally less clear. Few went far enough back to establish a context for plate movement by convection currents in the mantle. Others launched into a general explanation of subduction without being able to relate it to the diagrams or to the production of fold mountains and ocean trenches. Many thought fold mountains were volcanic and failed to mention the uplift of sediments. Ocean trenches were viewed as part of the subduction process but few were able to develop or explain the deepening of the ocean floor by this process.

Question 4

Candidates demonstrated understanding of population dynamics and produced many good answers displaying some useful exemplification.

- (a)(i) A wide range of definitions of infant mortality rate was given, many of which lacked precision. Relatively few answers were able to identify the death of infants under one year of age per 1000 live births.
- (ii) Virtually all answers correctly identified the higher rates in Africa as well as using the data to illustrate the differing ranges within and between South America. Identification of individual countries within the continents was not required.
- (b) Weaker candidates wrote about mortality rates in general without directing their text to infants. Suggesting that MEDCs lacked famines and plague were not seen as helpful arguments. Many merely stated that MEDCs had the 'best of everything' or had developed a widespread use of contraception without ever relating either of these to IMR. Good answers focused upon factors affecting infants' needs and susceptibilities, recognising the role of mothers/parenting and balanced what governments provide with the needs of family care and responsibilities.

Question 5

A mixed response but with many excellent answers that made good use of observation/exemplification in **(b)**.

- (a)** Close observation of Fig. 5 yielded good marks. A few opted for general explanations of rural-urban migration in **(i)** which was not acceptable. Similarly in **(ii)** counter-urbanisation was occasionally described rather than the actual movements shown. 'Describe' as a command did require slightly more than identify. Thus distinguishing the movements on the left and right of the diagram and indicating distance was helpful.
- (b)** There were many effective answers that suggested factors such as poverty, the need for cheap shelter, the lack of housing supply, proximity to low paid employment and the relatively high costs of transport into the city. Some were able to illustrate how the rate of arrivals outstripped authorities' attempts at housing provision, and that local ethnic, religious and political conditions could also be contributory factors. Weaker answers explained why rural-urban migration occurs or described the physical and social conditions in favelas or bustees, rather than addressing why such semi-informal housing occurs.

Section B

Question 6 was the most popular with **Question 7** the least answered. All questions required the production of labeled diagrams, which many found very challenging. Providing text unrelated to the labeling of the diagram when the command was to draw a labeled diagram cannot be credited.

Question 6

Popular and often well answered.

- (a)(i)** Most candidates could name three methods by which rivers transport loads.
- (ii)** Descriptions of turbulent flow and helicoidal flow were less successfully achieved. Relatively few candidates were able to describe both. An effective way of achieving this was by use of diagrams to show short distance changes in velocity (turbulence) related to channel roughness or slope. Helicoidal flow could be illustrated as a corkscrew motion within meandering channels. There were many instances of confusion with laminar flow.
- (b)** Many diagrams were surprisingly poorly executed. This was particularly true of deltas, which often showed little more than a triangular shape unrelated to the deposition of sediment in either a sea or lake. Waterfalls were better executed and most were able to show resistant rock strata in the long profile of a river with accompanying plunge pool and indication of retreat. Accounts that made only a token attempt at a diagram and relied on an explanatory text could be afforded little credit.
- (c)** A very mixed response. The better accounts were those that concentrated on the impact of urbanisation in both increasing and diminishing channel flow through shortened lag times or through drainage diversion and abstraction reducing input. Weaker accounts lapsed into general accounts of catchment conditions (land use, geology, slope, etc.) without relating it to either urbanisation or channel flow. A significant minority appeared to equate urbanisation with human activities in general and hence included agriculture, pollution, cloud seeding and global warming.

Question 7

This was the least popular question in this section. The responses showed a similar range as the other two questions.

- (a)(i)** Radiation cooling was generally understood as the loss of radiant heat from the Earth's surface at night-time.
- (ii)** Most candidates could name three products of radiation cooling, even those who were unable to explain the process in **(i)**.

- (b)(i) The diagrams were generally poor. Distance from the sun was most commonly incorrectly shown as the main cause of variation in receipt of solar radiation. Few diagrams demonstrated the parallel receipt of solar radiation and the relatively larger areas of Earth's surface and atmosphere to be heated at the poles.
- (ii) The different heat capacities of land and sea were well explained by many candidates. This was not always effectively related to temperature ranges. Most answers revealed a good level of understanding of this part of the syllabus.
- (c) Better answers demonstrated good understanding of the nature of urban heat islands in the absorption of insolation by buildings during the day and its release at night giving rise to higher temperatures. This was then related to increased convection and hence precipitation. Higher temperatures were also related to lower relative humidity and a lower incidence of mists and fogs. Poorer answers dealt with pollution or launched into a full urban climate account including winds, global warming and the like.

Question 8

This question was quite popular with some good responses.

- (a)(i) Insolation weathering was generally far better defined than wetting and drying. Only a small number of responses understood that wetting and drying involved the absorption of water into the pores and interstices of rocks/minerals. Evaporation and subsequent wetting could encourage structural weakening.
- (ii) Insolation weathering was the almost universal choice and the impact of diurnal temperature ranges on rock surfaces was usually effectively described. Less common was differential expansion of minerals and subsequent granular disintegration.
- (b)(i) Most were able to draw a simple slope profile indicating a summital convexity, straight rectilinear slope element and concave slope foot. On occasions convexity and concavity were confused.
- (ii) This was poorly answered with few candidates demonstrating any appreciation of slope development. Even an outline description of weathering/erosion of slope elements and the transportation of material downslope and possible deposition at the slope foot was rarely encountered.
- (c) A mixed response to this part of the question. Whilst there was general appreciation of the influence of climate, weaker answers merely illustrated this by lengthy descriptions of particular processes (e.g. freeze-thaw insolation, carbonation, etc.). No other influences were considered, apart from a few human activities, such as mining. Better responses explained the importance of rock type and structure and the best answers developed these in the context of different processes and climatic influences.

Section C

Questions 9 and 10 were of equal popularity but only a handful of answers to Question 11 were seen.

Question 9

There were many competent and some excellent answers that made good use of exemplification.

- (a) Outline definitions of underpopulation, optimum population and overpopulation in terms of too many people, optimum numbers and too few with relation to resources yielded most candidates at least three marks. Fewer candidates mentioned the highest living standards with regard to optimum population or dealt with the influence of technology and dynamism.
- (b) The key word in this part of the question was evidence. Credit was given for items of evidence of overpopulation drawn from both the socio-economic and physical environments of areas that had been studied. Any examples, rural or urban, national or local were acceptable. The best answers made it clear that population/resource relationship was the key. Where using more than one example, candidates selected different evidence from each thus avoiding repetition.

- (c) This part of the question was seen by many candidates as an opportunity to describe the attempts to reduce birth rates usually utilising the example of China's one child policy. These answers failed to consider the extent to which such policies helped to solve overpopulation and could only receive limited credit as they did not address the question. A number of approaches proved effective. Some further exploited the population/resource theme whilst others demonstrated a good grasp of population dynamics by, for instance, explaining both the long-term and short-term effects on populations of attempts to control birth rates. The possibility was explored of having a lower birth rate, but higher population numbers through contemporaneous shifts in the death rate.

Question 10

This question was often well answered with good use made of local and exemplar material.

- (a) Despite the emboldening of urban-rural in the question, some candidates wrote only about rural-urban migration. Fortunately these were relatively few in number. The best answers considered the negative aspects of city life and the positive attractions of rural areas that were often sufficient to promote return migration. Useful examples were drawn from Mauritius, Nigeria and Zimbabwe. Consideration was also given to the influence of life-cycle (marriage, retirement, illness), economic opportunity (rural entrepreneurs in game parks, jobs in Zimbabwe's rural growth points) and urban-based political, ethnic and religious conflict.
- (b) Candidates were asked to express motivation for migration to urban areas in terms of push factors. Many did this well with a careful selection of push factors. The poorest answers were those that merely developed the 'bright light' attractions of urban areas. The best answers were able to develop specific examples of push factors such as incidences of drought, social, political and ethnic unrest or cited the impact of traditional inheritance laws. Weaker responses reiterated the rural 'bad' urban 'good' theme.
- (c) Many candidates were able to produce good evaluative content. Better answers recognised positives, such as remittances, the reduction of pressure on the land allowing the introduction of new ideas and equipment as well as the more familiar negative impacts. These were often expressed through a range of impacts such as social (family breakdown) economic (poverty), environmental (abandonment of land) and political (lack of government investment). Weaker answers only outlined a few, usually catastrophic, negative impacts.

Question 11

This question was answered by only a handful of candidates in very few Centres. The weaker accounts were those that attempted whole city descriptions, whilst the more successful focused upon particular inner city areas (e.g. London Docklands).

- (a) Marks would be awarded for a rounded description of the chosen area. This should have incorporated several dimensions (social, economic, environmental, political) but have been limited to description.
- (b) Reasons for problems would have been developed here and would have incorporated the historical context as well as those more recent circumstances exacerbating the problems. Such features as the outward shift of population and industry, the decline and change of waterfront and city centre employment and the impact of invasion/succession.
- (c) Assessments could have been expected of what had and had not been achieved by attempts at inner urban redevelopment. This could incorporate assessments of who gained and who lost out and could have covered some aspects of housing, transport, jobs, and environmental and social quality.

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

General comments

There was evidence of an improved standard from last year as, perhaps, Centres have become familiar with the demands of this paper. The majority of candidates found the questions accessible and there were very few infringements of the rubric. Although there was the expected wide range of quality across the entry, many candidates showed good or very good knowledge and understanding of physical geography appropriate to A Level. Time was generally well managed by the majority of candidates but some, as last year, devoted too much space, and therefore time, to parts **(a)** of questions for 10 marks at the expense of giving proper thought and attention to parts **(b)** for 15 marks.

Before answering, the need for careful reading of both parts of a question cannot be stressed too strongly; it was clear to Examiners that in some cases candidates were attracted to a part **(a)** without considering the full implications of a Part **(b)**. As has often been the case in past examinations, candidates needed to address the particular demands of a question and not just write about the subject matter as remembered from their reading and notes. In this connection, there were many instances where data in the insert material related to a question were completely ignored, such as in **Questions 2 and 6** and, to a lesser extent, **Question 8**.

There was a pleasing standard of written English and most scripts were well presented, many with clear diagrams. The importance of relevant examples needs again to be emphasised, even if not specifically asked for in the question, and examples needed to be used to illustrate or explain and not merely be quoted.

The comments that follow on individual questions highlight mainly the weaknesses in answers and are advanced in the hope that Teachers may be able to appreciate why some of their candidates performed less well than expected. In all cases there were answers of an excellent standard which reflected a high level of knowledge, understanding and preparation for the examination.

Comments on specific questions**Question 1***Tropical environments*

Not a popular question and Examiners suspected that in a number of cases it was chosen because candidates were keen to answer part **(b)** for which they were better prepared.

- (a)** Generally not well answered, although as ever there were a few excellent responses where candidates displayed a thorough understanding of the seasonal pattern of monsoons, their genesis and gave well illustrated examples. Of the majority, however, although knowing that monsoons were associated with the ITCZ and rainfall, few established the seasonality of heating, pressure systems and air flow or the patterns set by continents, oceans and topography. Maps, if drawn, were frequently of poor quality and weather data were limited.
- (b)** The increased interest and competence in discussing and illustrating nutrient cycles in tropical environments was probably the reason that many candidates opted for this question. Most provided clear diagrams of the Gersmehl type, although scales of the stores and flows were not always accurate. The better answers also addressed the second demand of the question as to why nutrient cycles were important in explaining the operation of tropical ecosystems. It enabled them to explain how nutrient flows and stores hold the key to ecosystem equilibrium and some illustrated this with respect to any human impact on the environment.

Question 2

This was the more popular choice although answers were generally disappointing.

- (a) Although it was obvious that many candidates had a reasonable knowledge of inselbergs, too few applied their knowledge to addressing the specific demands of the question. Many seemed to have ignored Fig. 1 altogether. Consequently they omitted to explain the early phase of deep chemical weathering and the significance of joint spacing and density in the irregular form of the basal surface of weathering. Similarly, environmental change and stripping processes were given minimal treatment. Too many answers were more concerned with the exfoliation of inselberg domes and also the occurrence of tors and castle koppies. Some answers though were well balanced and effective and were awarded due credit accordingly.
- (b) As this question was broader than **Question 1 (b)** it allowed candidates to write at length about slash and burn, logging, grazing and cropping leading to soil erosion and degradation. Some competently described the secondary growth of sub, or plagio, climax vegetation. Better answers employed Gersmehl diagrams and in some cases showed the changes in the stores and flows before and after human interference. In weaker answers, the one tropical ecosystem was not identified and there was little or no reference to examples.

*Coastal environments***Question 3**

The more popular choice of the coastal environment questions with some outstandingly good answers.

- (a) With the exception of those very good answers, too many candidates focused only on either deposition or movement via longshore drift. Many candidates wrote unnecessarily at length on how waves are generated. Others described at length methods of transport more applicable to rivers, i.e. by detailing the four basic processes of stream transport. But the better answers did deal effectively with the action of constructive and destructive waves, often with clear diagrams, and the longshore movement generated by oblique wave approach to beaches.
- (b) As in part (a), there was a very wide range of quality in the answers. For what should have been a very straightforward demand, Examiners found many of the answers lacking in basic understanding of how the features developed or even what they looked like. Many diagrams of spits lacked wave direction and the spits grew out of totally inappropriate coastal locations. Although in many cases there was a reasonable understanding of spit form and development, the same cannot be said for the common extension of spit development to create the features of tombolos and bars. Generally those who wrote after spits on salt marshes and dunes achieved better results.

Question 4

Not very popular and overall not yielding many good responses.

- (a) This proved to be inaccessible to the majority of candidates. Although most could describe the stratification and joint pattern, few could write coherently about the processes operating and how the resultant profiles developed.

The very important wave action at the base of the cliffs, either to undermine the structures or to remove weathered or slumped material from sub-aerial processes, was ignored in most instances.

- (b) As with part (a), there were very few good responses to this question. The term 'sustainable management' was either not understood or ignored in the majority of cases. The common examples chosen were Christchurch Bay (Barton) and the East Sussex coast (Hastings and Fairlight) and answers described the hard engineering works involved. Better candidates presented accurate maps or diagrams and appreciated the effect on the natural coastal system of structures such as groyne, sea walls and harbours. However it was encouraging to read some answers based on the home areas of candidates. Some of these were very relevant but a few were written only in terms of coastal pollution problems for minimal credit.

*Hazardous environments***Question 5**

This was by far the most frequently answered question on the whole paper.

- (a) There were some excellent responses to this with accounts of tectonic zones, often well illustrated, showing plate boundaries, foci, epicentres and isoseismal lines. Helpful references were made to push and shake waves and the Richter scale and the best answers made reference to examples. However there were many answers where the coverage was much less comprehensive, often only the causes related to plate margins were covered and time was wasted on dealing at length with human activities inducing 'earthquakes'. 'Causes' or perhaps 'nature' would seem to have been taken as meaning 'effects' in quite a few instances as material more applicable to Part (b) was often included.
- (b) Again there were many very good answers with accurately detailed examples used to illustrate why earthquakes can be hazardous, not only from the primary effects of ground movements but also secondary hazards from landslides, liquefaction and tsunamis while subsequent outbreaks of fire and disease were also covered. Weaker candidates wrote in more general terms and merely quoted place names of earthquake occurrences without the specific or accurate data of the events. The better answers were well balanced with the methods used to limit effects being presented realistically and by the use of examples. In many weaker answers, candidates had written at length on the limiting procedures and often with little realistic understanding, devoting too much space on building materials and construction or on animal behaviour. Good answers covered hazard zone mapping, seismic monitoring, history of events and the need for well organised response mechanisms and education as well as building codes.

Question 6

Quite popular; it would seem that the Hazardous Environments option is a preferred choice at most Centres.

- (a) As with **Question 2 (a)**, this was again a case where many candidates did not follow the demand of the question that the tropical storm, i.e. the one given as Fig. 3, should have its main features described such as intensity, wind patterns, track, eye and so on. Candidates were much better in giving a generic type approach dealing with conditions of formation; sea temperatures, latitude, Coriolis force and the release of latent heat to fuel the system. There were a few instances of confusion with tornadoes.
- (b) Generally well attempted, the better answers making good use of relevant examples backed up with accurate data, e.g. as in Bangladesh, Florida and Nicaragua and detailing the effects of high winds, heavy rainfall and storm surges. Storm tracking from satellite imaging, radar and weather stations were mostly well known and many candidates were able to comment relevantly on the success of predictions.

*Hot arid and semi-arid environments***Question 7**

The least answered question of the paper and with some exceptions, one of the least well attempted.

- (a) At a few Centres, this topic had been well learnt by candidates who organised their answers around rainfall intensity, the nature of run off, stream flow, sheet flow, intermittent and exotic rivers and ground water. Some illustrated their answers with storm hydrographs and the better candidates were aware of rainfall data and the effect of high evaporation levels. But there were many very limited attempts at this question where candidates progressed little beyond an erroneous idea of high infiltration because of sandy soils, the occurrence of oases and exogenous rivers such as the Nile.
- (b) Soils in hot arid and semi-arid environments were generally not known; many candidates referred to them only in terms of them being sandy. Very few dealt with salt content from upward movement of water creating a crusty surface layer, or lack of humus, horizons and depth. Vegetation, however, was well known and many candidates wrote at length on adaptations with cogent examples. There was less competence revealed in considering human occupation. Many restricted their accounts to settlement along the exotic rivers and the use of irrigation, but better ones also considered the effects of aridity inhibiting population and therefore its low density with scattered nomadic groups or settlements at oases fed by fossil ground water.

Question 8

This was the more popular choice in this section and yielded a generally better response.

- (a) Dunes, wadis and yardangs were the preferred choice of most candidates. The diagrams were generally accurate although too few gave any indication of the scale of the features. Explanations were generally weaker than descriptions, e.g. the precise role of wind direction and strength in dune formation and that of rock type or structure in the case of yardangs were not fully recognised; some confused yardangs with zeugens.
- (b) This topic would seem to have been well rehearsed by many candidates as there many well written and relevant answers. Evidence was given from landforms such as wadis, alluvial fans and other piedmont assemblages and former lake levels such as that of Lake Chad (shown on the Fig. 4 map). Archaeological and palaeobiological evidence were cited by many; these latter sources were prominent in many of the weaker answers. The best candidates also evaluated wetter past conditions and the processes that could operate with the present environment of aridity with just occasional episodic rainfall events.

Paper 9696/03

Advanced Human Geography Options

General comments

In this, the second November examination to be offered on the 9696 Syllabus, Examiners commented that it was good to see responses to the full range of questions across the paper, as well as evidence of candidates making careful choices between the two questions offered within each Option.

It is worth reminding Teachers that the whole Option should be studied, both to afford candidates the element of choice, and as questions may be set across topics, which sometimes appear separately (see note on Global Interdependence below). Question papers are designed so as to cover the syllabus in its entirety over the period of a few years.

Whilst some candidates were disadvantaged by their usage of time, as reported previously for the November 2002 examination, there was less evidence of poor time allocation between the Physical Options of Paper 2 and Paper 3 than before. Teachers are, however, advised to encourage candidates to be careful in the division of the three hours between the two.

Most answers were clearly written and relevant, and Examiners noted that efforts were made to adapt and apply learned material and to direct it to the question set in some cases. However, answers tended to be over-generalised, and case example support was weak to moderate in the majority of responses.

Questions are designed in the light of the Assessment Objectives, given on page 3 of the syllabus, and in accordance with the Specification Grid which appears on page 5. As such marks are balanced between Knowledge, Understanding, Skills and Enquiry and Evaluation and Decision-making. The examples required in questions supply many of the Knowledge and Understanding marks found in (a) and (b) and form the foundation for much of the Evaluation, usually in (b). Performances which demonstrated both a firm grasp of the general principles of say, location decision making in **Question 10**, or international trade in **Question 13**, and which then developed these through detailed reference to examples, as required, gained high reward, and in part (b) achieved Levels 2 or 3. In contrast, responses which used vague examples or examples in name only e.g. 'India', after a general account, would remain in Level 1.

Candidates seemed familiar with most of the terms and concepts appearing on this season's paper. The main exceptions to this were the terms *agricultural holding* in **Question 9**, *diseconomies of scale* in **Question 10** and *the spatial division of labour* in **Question 16**. It is good to note the growing appreciation amongst candidates of *sustainability* as a management concept, appearing as it did both in **Question 11 (b)** and **Question 14 (b)**, but with significantly different associated demands.

It is usually the case that a data response element is to be found in one question for each Option. This gives candidates the choice between a more structured question and one involving extended writing in both (a) and (b). Candidates responded quite well to Table 1 and to the two maps at different scales and of different types (located proportional circles in Fig. 5, and a choropleth in Fig. 7), but found the correlation graph in Fig. 6 more challenging. Teachers are advised to train candidates in the reading and interpretation of as wide a variety of materials, maps and forms of graphical representation as possible, and in their critical evaluation.

Comments on specific questions

Production, location and change

Question 9

Examiners found it disappointing to see so few candidates actually choosing a case example of the necessary *agricultural holding*, around which to frame a response. Taking a general or national example, such as the Green Revolution within India, or the diversification of agriculture in Mauritius, inevitably limited its potential outcome. Any agricultural holding was acceptable: arable or pastoral, subsistent or commercial, large scale or small scale. Some Centres used a local example to good effect and clearly had visited the holding concerned in some cases.

- (a) Answers were somewhat unbalanced here. Although 'the nature of the changes' was suitable, too little attention was often given to the 'reasons for change'. A wide variety of reasons were anticipated, depending on the case chosen, including for example, food demand, profit motive and government incentives offered.
- (b) Even in the case of the general answers, responses to (b) were rather better in quality and the assessments could be well-balanced, combining breadth of perspective (economic, social and environmental dimensions), with case detail and demonstrating a sense of judgement. Good assessments made clear both the positive and the negative aspects of the changes, and perhaps identified which individuals or groups of people benefited from the success and which lost out.

Question 10

- (a)(i) Most candidates had some idea of *economies of scale*, but few could define the term well. Some saw it simply as decreasing costs without a link being made to unit cost and scale of output. One misconception was that it is a cost-saving location, rather than that agglomeration economies are one aspect of external economies of scale. The term, *diseconomies of scale*, was even less well understood. They operate in an industry where its being large brings inefficiency and higher costs per unit product, for instance, through slow decision-making or unwieldy administration.
- (ii) Reasons given for the concentration of *maquiladoras* in the border zone of Fig. 5 were sound, and showed some understanding of wider locational principles and issues. Interpreting the unfamiliar, using background knowledge and geographical understanding is a skill that can be enhanced usefully in class teaching. Most of the suggestions related to reducing transport costs and reducing labour costs, but some recognised government involvement (in this case Mexico's Border Industrialization Programme 1965); economies of scale; and advantages derived from looser legislation e.g. on environmental control, hours of work and working conditions. A full answer consisted of at least three different developed points.
- (b) Examiners were disappointed with responses to this part of the question, commenting that few used one case study suitably. Some responses were about regions of several industries, whilst others discussed general locational factors in a Weberian manner. Only a few candidates recognised the importance of the word, 'relative', and attempted to compare the significance of one locational factor with that of another, or of the chosen location with other potential locations. The iron and steel industry provided some of the best case studies, and readily identifiable factors such as raw materials, transport, markets and government policy. Other smaller case studies looked at behavioural factors creditably e.g. in relation to the founder's decision-making or to inertia perpetuating a by now non-economic location. Labelled sketch maps could be used in order to convey information clearly whilst saving time.

*Environmental management***Question 11**

- (a) The description needed to cover the three fossil fuels - coal, oil and gas - but could legitimately focus on two of them and all three aspects: production, transport and use. Some candidates included fuel wood as a fossil fuel, which as living, and not fossilised, matter is mistaken, as was the rarer inclusion of biogas (rather than natural gas). Whilst moderate answers offered only basic points, such as 'air pollution' or 'degradation of the landscape', better answers gave more detail, such as 'carbon dioxide and sulphur dioxide pollution from combustion', or 'deep mining leaves vast spoil heaps'. Some of the best answers offered some judgment of the severity of environmental impacts between the three fossil fuels and/or the three aspects, and recognised both local and global impacts from their usage, for instance, low atmospheric quality in a major city, such as, Beijing, and the issue of global warming through the production of greenhouse gases. As the question asked for 'environmental impacts', consequential impacts on human health were a digression.
- (b) Examiners were encouraged by the understanding shown in many of the responses, nuclear power being not readily accessible to many Centres, and sustainability being demanding conceptually wherever it occurs in the syllabus. Sustainability is the ability to meet current needs without compromising the ability to meet the needs of future generations. Nuclear power is therefore, of geographical interest because of its vast energy potential, non-renewable, but abundant source (uranium), reprocessing capability and high demands on initial capital, skills and technology, but also the associated safety issues (transport, generation, disposal of wastes and accidents). Many candidates both debated some of these issues well and made reference to key events, such as those at Three Mile Island and Chernobyl and to their aftermath. Weaker responses tended to be catastrophic in tone and showed limited understanding of, for instance, radioactive substances. Some candidates struggled to adapt their learned material with a heading, which was probably 'the advantages and disadvantages of nuclear power' to the demands of this question.

Question 12

- (a)(i) Most candidates found the graph on which this was based, confusing, and seemed unfamiliar with the graphical technique of positive and negative axes. The demand for 'relationship' also challenged most, although the shrinking forest areas and expanding arable areas in LEDCs, and the small increase in forest and small decrease in arable areas for MEDCs and Europe, are clear enough. A full answer recognised that beyond this there are significant outliers or anomalies shown.
- (ii) It was generally understood that *deforestation* is the complete removal or clearance of woodland or trees by cutting or burning. Better quality definitions made some reference to the practice being unsustainable or occurring at rates faster than natural regeneration or without replanting. Reasons why *deforestation* occurred were covered well by most candidates. Answers consisted of two types: those that identified needs, such as fuel wood, logging, or space for urban expansion; and those that described the pressures on the forest areas, such as increased food demand from growing population, or the poverty and ignorance of the rural people.
- (b) Examiners observed that the responses about water pollution were over-generalised, and seldom done effectively 'with reference to examples'. A full answer consisted of three elements: detail of the example(s) of water pollution chosen (location, source(s) impacts); description of the attempts (what, when, how, who by, how funded, etc) and an assessment of effectiveness, indicating comparative success and/or failure with some explanatory reasons. Some candidates were able to use one or two quite detailed examples carefully, often showing a number of different attempts over time and conveying a sense of the ongoing challenge at controlling pollution at source and maintaining or improving water quality. Some good use was made of evidence in relation to effectiveness, such as people using water filters or buying bottled water rather than using tap water directly, or the return of aquatic life to formerly polluted waters. This was highly creditable, more moderate attempts tending to be vague and descriptive.

Global interdependence

Examiners noted that it is encouraging to find an increasing number of candidates choosing the question based on trade, rather than that on tourism (although the syllabus allows for the setting of a question which spans the two topics, for instance on tourism as an invisible export).

Question 13

- (a)(i) Most candidates had firm knowledge that a *tariff* is a tax or duty placed or charged on imports, and that the role of *tariffs* is to increase the price to the consumer, making imports less competitive, therefore, protecting domestic goods. There was some confusion of the terms *import* and *export* both here and in (b), and some responses suggested that a tariff's only purpose is to generate funds for the government.
- (ii) Despite the complexity of the data set, most candidates answered this reasonably. Weaker candidates may have only managed to recognise that all tariffs decrease and to give an example, or simply rewrote the whole table in words. Stronger responses saw beyond the change over time to the fact that tariffs increase with product complexity, and perhaps, that differentials in 1995 were lost between raw materials and semi-manufactures.
- (b) Candidates who had a good national case study from 1960, such as Japan or South Korea, or their home country found this accessible. It is worth noting that a large complex example, such as USA, is best avoided, as both the description and the explanation are hard to do effectively in the time available. The most notable feature of responses of all qualities was that the explanation of the changes in the international trading patterns was of higher quality than the description. Whilst candidates, as instructed, covered both imports and exports, many had little sense of pattern (for instance scale or changes in trading partners) and few could go beyond the broad categories of raw materials (or minerals and agricultural products) and manufactured goods to detail particular items. Better quality responses noted the contribution of invisibles, especially invisible exports, such as tourism and financial services.

Question 14

Examiners noted that this season's tourism question was less popular overall. It was also the case that in both parts (a) and (b), a significant number of candidates did not read the question sufficiently carefully in order to answer it properly. So in (a), many produced a 'reasons for the growth of tourism' style response, whilst in (b), some candidates were diverted by the words 'photographs' and 'footprints' into trivia.

- (a) Most responses centred around the idea of attractions; environmental, 'sun, sand and sea' or historical monuments; or social, such as unique and exotic cultures. For most, the comparative element here was simply have/have not. Other factors, such as whether the country was politically stable or not, were treated a little better in terms of comparison. Only the best quality responses recognised the differential significance of factors, such as distance from key markets, transport infrastructure, media and promotion and government policy. Full answers required attention to both 'some' and 'others' in the question, and so answers based around what the candidate's home country had to offer, were inevitably restricted. Some answers contrasted the broader advantages of some MEDCs, compared to many LEDCs, but needed to be qualified by some variation of recognition within the two groups of countries to do well. A number of candidates settled too readily for the idea that MEDCs 'have it all'.
- (b) There was general understanding of sustainable tourism, usually in the form of eco-tourism. Some candidates, however, interpreted it simply as meaning sustaining tourist arrivals and therefore, income from tourism, often in terms of the phases of stagnation and decline in Butler's model, a view which restricted the response considerably.

Forms of sustainable tourism have a concern for maintaining environmental quality and indigenous cultures, whilst giving the tourist a quality recreational experience with a learning component. It is a trend which is noticeable because of growing concerns over mass tourism's negative impacts; physical, in terms of pollution and environmental degradation; social, in terms of cultural erosion through such behaviours as the so-called demonstration effect and the mass production of 'handicrafts'; and economic, through issues such as leakage and the employment of a high proportion of foreign workers. On the demand side, it reflects a change in priorities, fashion and interest, especially amongst the more affluent tourist market, for a new and educative experience, 'close to nature' and interactive with local peoples. Many good examples were used of sustainable initiatives, but it should be noted that, whilst focused on wildlife and landscape, the safari industry in some cases is known for its disturbance of animals, and for the damage it has caused within National Parks.

Economic transition

There were fewer attempts at **Question 15** than average for the paper, probably because of the emphasis on social development in **(b)**, and the straightforward **Question 16** on transnational corporations for prepared candidates.

Question 15

- (a)(i)** Few candidates stated an advantage and a disadvantage clearly enough to achieve two marks, and even fewer developed each idea to gain the full four marks. Many candidates appreciated something about the measure, but expressed it only vaguely. Suitable advantages were that it is readily comparable internationally, or that it is an indicator of overall development. Suitable disadvantages were that as an average figure, it hides internal inequality e.g. elite/poor, or that it is too dependent on the role of manufacture, with quality of life being a different issue.
- (ii)** Responses here were much sounder than to **(i)**, with most candidates interpreting Fig. 7 reasonably, and showing understanding, both of the data set and of the world. Whilst a global North-South was anticipated, those candidates who identified North-South variations at the continental scale e.g. in the Americas, were credited. In all cases, the identification of Australia (perhaps with New Zealand) as an anomaly, in the \$10000-24999 class, but located in the Southern hemisphere, was a discriminator.
- (b)** Whilst geographers recognise that social development is as important as economic development and that the two often go hand in hand, few candidates had a firm and sufficiently broad understanding of the term. Social development is that which relates to society, and includes such issues as gender equality, family life, literacy and education, training, family planning, justice, citizenship, the rights and position of minority groups, the arts and recreation. Some candidates managed to identify one or two areas, often education but most tended to see social development as 'economic', in relation to generating employment and raising income levels, without linking this to their impact on social wellbeing e.g. via skills training or the multiplier effect and modernising influence. Few candidates had suitable examples of attempts to improve social wellbeing, although examples of literacy projects and empowerment initiatives amongst women were seen. To achieve a Level 3 award (12-15 marks), candidates needed both a broad view of social development and two detailed and contrasting examples of attempts to improve social wellbeing.

Question 16

Examiners were encouraged by the number of responses seen to this question, by the conceptual understanding of globalisation demonstrated and by the creative use of the case study chosen.

- (a)** Most candidates could define *transnational corporation* as a large firm, business or company, which operates in more than one or many countries, but few could manage the *spatial division of labour*. This is how employment, jobs or functions are separated in location to economic advantage or for profit. Many who understood the division of labour did not recognise the significance of the word *spatial* here.
- (b)** Answers of all qualities were seen to the description of spatial organisation. The weakest seemed to interpret it as layout of a works, whilst the best covered different functions e.g. headquarters, research, production of components, assembly, marketing and detailed actual places, so 'Chicago, USA' rather than simply 'in America' or 'Jakarta, Indonesia' rather than just in 'LEDCs'. Some used a labelled diagram to advantage, saving time.
- (c)** It is accepted that transnational operation is fundamentally about profitability and economic advantage. Strong responses demonstrated this in relation to differentials in labour costs and to other issues, such as market potential and penetration and access to raw materials and/or components, so further reducing transport costs and increasing profit margins. In each case understanding the nature of the product or products was basic to the answer, so a response about *Coca-Cola* was rather different from one on, say, *Nike* or *Sony*. Some responses lacked conviction and covered one or two ideas, such as, lax environmental legislation or the absence of labour laws in LEDCs, in a general way, simply naming the corporation chosen. Some candidates failed to appreciate that the benefits required were those gained by the transnational corporation itself, and wrote on the benefits to the host country, whilst frequently considerable, were irrelevant here.