GEOGRAPHY

GCE Advanced Level and GCE Advanced Subsidiary Level

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

General comments

The response to this examination was encouraging in that the vast majority of candidates were able attempt a full range of questions. The only exception being **Question 2**, which a number of candidates failed to attempt an answer. There were no instances seen of any rubric infringements.

There is some evidence that candidates are adapting to the requirements of data response questions in that they are addressing and using the data provided in framing their responses. Thus in **Question 1 (a)** measures of lag time could be given in hours and peak discharge in terms of cumecs. Similarly the data in **Question 4 (a)** could be directly utilised in stating relationships between education and fertility. Occasionally this led candidates to produce overlong answers with far too much detail for the amount of marks allocated to these sections of the answer.

The allocation of time throughout the paper was not always successfully handled. Some candidates devoted far too much time to questions about which they felt confident such as hydrology and population studies. This had the effect of limiting the time that could be devoted to the final answer which was most commonly the human geography question in *Section C*. This was often answered in a sketchy and notation form to which only limited credit could be awarded.

Candidates are well advised to follow the structure of the question subdivision. The practice of running all parts of a subdivided question together does not make for either coherence or for a focussed answer.

Comments on specific questions

Section A

Question 1

The most successful answers to the physical geography questions. In **(a)**, there was a general understanding of the hydrographs and most were able to point to differences in lag time, peak discharge and to the relative steepness of the rising and falling limbs. The most successful answers expressed this concisely in terms of the measurements shown on the axis of the hydrograph. The least successful produced rambling and often incoherent accounts of the shape of the discharge curves and the pattern of rainfall. In **(b)** most answers sensibly concentrated on the differences in land use as the main determinant of differing discharge curves. The role of interception in forested as compared to arable and pasture areas could be explained in terms of the relative delay of overland flow, throughflow and ground flow. Speculation concerning other catchment area characteristics (e.g. slope, geology, size, etc) were not credited.

Question 2

The least successfully answered of the questions in this section and a question not attempted at all by some candidates. In **(a)** relatively few candidates were able to describe any differences or similarities with any degree of accuracy. Attention was often focussed on minor individual features rather than broader aspects of the pressure patterns. Successful answers pointed to the similarities provided by the equatorial low pressure or the sub tropical highs. Differences were provided by the seasonal migration of the pressure belts or the contrast between continental highs pressure in winter and the low pressure developed over mid latitude oceans. Those that selected more minor features then could produce little explanation of the changes or similarity in part **(b)**. The sub tropical highs could be explained in terms of the seasonal global

distribution of insolation giving rise to the resultant pressure cells. A full description of the operation of the Hadley cell was not required for this answer although some candidates successfully used it as a basis for their explanation. The differences could be explained by reference to the seasonal movement of the overhead sun and the earth's tilt. This did not seem to be very widely understood nor was the differential heating properties of land and sea masses.

Question 3

This produced an extremely variable response. In **(a)** description only was required, although some candidates began to provide explanation which rehearsed the second part of the answer. Most candidates were able to point to the significance of the joints but relatively few were able to describe the rectilinear nature of the jointing pattern that led to the development of block disintegration and core stones accompanied by an increasing depth of regolith. In **(b)** many candidates produced a 'learned' type of response, detailing the various processes of physical weathering regardless of their appropriateness to the conditions shown in the diagram. Hence thermal fracture, freeze thaw, granular disintegration, salt weathering and pressure release were all described in some detail with no reference to the diagrams. More successful answers noted that weathering was taking place at depth and was more likely to be influenced by chemical weathering due to the progress of acidulated water through the regolith to impact upon the jointed nature of the basal weathering surface.

Question 4

Along with **Question 1**, this was the highest scoring question in **Section A**. Most successfully interpreted and extracted the data to answer part **(a)**. Many candidates, however, spent too much time with superficial development, having already gained maximum marks. In **(i)** it was sufficient to simply state the relationship (i.e. inverse) and in **(ii)** to give the actual variation (3.1 – 7.5 or 4.4 children). It was not required that all the data contained within the diagram should be repeated and further described. In **(b)**, there were many sound and good answers to this part of the question. Most could describe at least one factor that might affect fertility rates. Weaknesses were in the location of the incidence of such factors (omitted or vague such as "in Africa"). Some repeated the same factor (different forms of contraception) or used 'umbrella' factors such as health, wealth and diet. When two factors are specified no additional credit can be gained by producing more than two.

Question 5

Despite the complex nature of the resource, most candidates produced an ordered comparison of the two cities. Problems arose for those failing to compare the population and ranking of the cities. Merely listing the data of one city and then the other does not constitute a comparison. A few candidates misconstrued the question and supplied a speculative explanation of the changing size of the cities. Part **(b)** was less successfully answered. Many candidates failed to notice that India has two and then, in 1990, three cities in the Table. Some wrongly thought that the table was the Demographic Transition model. Others erroneously assigned India to stage 1 of the model and many failed to make any sort of assessment of the model itself in terms of an explanation of India's growing urban agglomerations. A few candidates gave a description of the DTM including a diagram, without any critical appreciation or reference to India.

Section B

Question 6

The most popular choice amongst the physical geography questions. In **(a)**, turbulent flow was better described than helicoidal flow which was often confused with laminar flow or the thalweg. A process of fluvial erosion was usually successfully identified although there remains some confusion between abrasion and attrition. In **(b)** most could draw a satisfactory diagram of a flood plain although some did confuse it with the features of a meandering channel. A feature often overlooked in both the diagram and explanation was the deposition of sediment upon the flood plain. The role of meander migration in the formation of flood plains was rarely introduced. **(c)** was often the most disappointing part of many answers as candidates often dealt with the control of flooding rather than the impact of human activities upon the flood plain itself. Successful answers were able to identify the effects of urbanisation and other land use changes on flood plains and some were able to relate changes in the general catchment (dams, land use, etc) to the development and maintenance of flood plains.

Question 7

Less popular and often poorly answered. Many were unable to distinguish between sensible heat and latent heat although there was some realisation that the latter referred a change of state. Few were able to give any conditions necessary for the formation of dew – even cooling below dew point temperature. In **(b)** candidates either knew the diagram and could faithfully reproduce it or were unable to indicate any of the lapse rates. The explanations were even less successful often showing considerable confusion with conditions of absolute instability. For **(c)** virtually all responses were able to identify aspects of urban climates, but were often unable to relate these to the urban heat island. The absorption and storage of solar radiation by the urban fabric was frequently overlooked in favour of the impact of buildings on wind speeds and the increased incidence of precipitation.

Question 8

This produced a considerable amount of internal variation between different parts of the answer. Most candidates were able to identify differences between oceanic and continental plates but then launched into extensive accounts of plate boundaries and their attendant activities, which was not required by the question. The diagram of the ocean trench was generally well done, but often represented a repetition of diagrams that had already been unnecessarily included in **(i)**.

Part **(b)** was poorly answered. Even the general impact of rock type and structure upon weathering was not demonstrated, let alone its impact upon slopes. A few candidates were able to point to the development of free faces in hard jointed rocks, but even the impact of inclined strata or of clays compared with granite were not approached. The same applied to climatic variation although there was some limited appreciation that it could affect the rate and type of weathering experienced. **(c)** was generally more successfully answered. Most were able to describe the processes of slide and flow. Human activities were usually seen in terms of mining and quarrying although some answers did introduce deforestation and other activities that could affect slope equilibrium.

Section C

Question 9

The most popular of the human geography questions. Although it is regrettable that population policy was so narrowly interpreted many of the responses were solid and often good. By far and away the most popular choice was the one child policy of China. Clearly this case study is well understood, but candidates should be encouraged to fully read all parts of the question and plan their answers before starting. This particular question produced a lot of repetition as candidates wrote general accounts of the one child policy with little recognition of the requirement to discuss priorities in **(a)**, implementation difficulties in **(b)** and relative success in **(c)**. Outcomes of the policy in producing gender imbalances and female infanticide were usually included in **(b)** and were then repeated in **(c)** where the focus remained exclusively on birth rates rather than giving any attention to death rates.

Question 10

Popular but often less satisfactorily answered than **Question 9**. Again a problem often occurred in assigning material to different parts of the question. Less successful answers used push/pull factors in **(a)** to describe migrability and then repeated them in **(b)** in the context of rural- urban migration. More successful answers recognised distinctive individual factors such as gender, age or forced moves in **(a)** as well as introducing decision making, perception and the influence of family ties. In **(b)** better quality answers were often based upon located examples whilst weaker answers produced general lists of 'opposites' – 'attractions' against 'bad' influences. Again in **(c)** many of the more successful responses employed located examples and were able to give a balanced view of both negative and positive impacts. Weaker answers merely listed negative impacts of population and resource loss.

Question 11

Very rarely answered. There were only a handful of answers in the whole examination. It might have been expected that candidates would have defined both functional (dominance of one function) zonation and vertical (different storeys) zonation within the CBD and an explanation in terms of bid rent and ability to pay. **(b)** was seen as an invitation for candidates to provide an exemplar (a local example would have been ideal) of recent CBD changes which could be further explained in **(c)**.

General comments

This was the first examination of this syllabus of Advanced Physical Geography Options. Many candidates had clearly been well prepared for the examination and were able to approach the questions with confidence and ability. There were, by contrast, some candidates whose levels of knowledge and understanding fell well below that required to succeed at an advanced level. These candidates often resorted to long, rambling irrelevant accounts that could be afforded little credit. Such was the length of some of the responses to the Physical geography questions, it would seem that an inadequate amount of time may have been allocated to the Human geography options. The additional time devoted to the physical geography rarely produced any additional marks.

In each of the option areas candidates were given the choice between a question with resource material and one without. Those selecting questions with resource material often dealt poorly with the resource provided. Sometimes the resource was completely ignored as in **Question 6**, where general accounts of hurricanes were given with no reference to the diagram. In other cases, some candidates merely repeated the contents of the diagram, as in the coastal sediment cell model used in **Question 4**. A few candidates even redrew the diagram as in the tropical rainforest in **Question 2**. Many candidates, however, utilised the material well, extracting relevant information to illustrate their answers or converting information into other diagrams such as the Gerschmel diagrams often employed for **Question 2**.

All questions were in two parts, one part worth 10 marks and the other worth 15 marks. The balance between the two parts of answers did not always reflect the mark distribution. This was particularly apparent in **Question 3** where far more time was devoted to the first part of the answer whilst the second part often received scant attention

There were no rubric infringements and the use of English was generally of a high standard.

Comments on specific questions

Tropical Environments

Question 1

A popular choice and a question that yielded some solid and even good responses. In **(a)** many candidates were able to describe the two climatic types and support their descriptions with data. Generally, the humid climates were more effectively described and explained than the seasonally humid climates. The latter often lacked material regarding rainfall and produced very confused accounts of the links with the movement of the ITCZ.

Many fared less well in **(b)** than in **(a)**. There was some understanding of the terms climax and plagio-climax, but few could express this in terms of either the TRF or Savannah vegetation. Human interference was often described at length within the context of the TRF but few could exemplify this by reference to the nature of resultant secondary forest or to Savannah vegetation. The relative importance of climatic and human influences upon the Savannah was very rarely mentioned.

Question 2

It was encouraging in **(a)** that many good answers employed gerschmel diagrams to illustrate the nutrient flows and stores, which were then referred back to the resource provided. In some cases the diagrams were not adequately labelled and the relative size of the flows were not shown. Weaker answers assumed that the diagram displayed the hydrological cycle and merely repeated the flow of water through the system.

In **(b)**, whilst some candidates displayed a good knowledge of chemical weathering of granite accompanied by the Ruxton and Berry and Falconer diagrams, there were many disappointing answers. The opportunity to develop local examples of limestone scenery in the West Indies or South East Asia was accepted by very few. In some cases the only landforms utilised were those of caves, stalactites and stalagmites. Weaker answers on granite often plunged into pediplanation and etchplanation theories with little comprehension of the chemical weathering processes that underpin them.

Coastal Environments

Question 3

Probably the most answered question.

In (a) wave generation was generally well explained and illustrated. Most answers displayed a clear understanding of wave movement as well as both constructive and destructive waves. Some candidates spent too long in illustrating these waves and the resultant beach profiles at the expense of the second part of the answer. (b) elicited a much more variable response. Some good answers displayed well illustrated examples of the development of spits and attendant salt marshes. The roles of long shore drift and wave refraction, however, were sometimes underplayed. Similarly, in salt marshes sedimentation and tidal influences upon structure were rarely developed. Weaker answers displayed little knowledge of either process or the nature of the landforms. Human activities were often limited to the down-coast effects of barriers to sand movement.

Question 4

This was less popular and answered by many who appeared to be attracted to part (b) but had little knowledge of sediment cells required in (a). There were a number of weak responses to (a) where little more was achieved than a regurgitation of the labels in the diagram. Few were able to indicate the nature of sources or sinks or appeared aware of the context in which sediment cells are found.

Two approaches were evident in **(b)**. Some utilised a textbook example of the problems of coastal protection in the Hastings, Fairlight, Pett Level coastal stretch. This was achieved with varying degrees of accuracy. The more imaginative approach was to utilise a local example, particularly from the West Indies. These often centred upon coral destruction or beach starvation. In both cases, however, the solutions to problems were very rarely evaluated.

Hazardous Environments

Question 5

A very popular question, but producing many rambling and misdirected answers.

In **(a)** many answers made brief mention of landslides, mudflows and avalanches with some appropriate examples. Few, however, explained the nature and causes of slope failures. The hazardous nature of these events was sometimes illustrated by reference to Aberfan, but more often by vague accounts of the loss of agricultural land. In **(b)** few answers were able to address the problems of the management of the human occupation of any particular hazardous environment. Most commonly, answers were ill focussed and rambling accounts of LEDC poverty and lack of infrastructure that were barely, if at all, related to any hazardous environment. Very few accounts dealt with prediction, preventative action and retreat.

Question 6

Little or no use was made of the diagram (Fig. 3) in **(a)**. Much of the information contained within the diagram concerning the location, frequencies and areas at risk from hurricanes could have been effectively used in the answer. Instead, rather inaccurate and generalised accounts were often given of the nature of hurricanes with only the barest of indications as to their hazardous nature.

In **(b)** most answers addressed some aspects of the question – the problem being one of balance. On the one hand, many answers provided copious examples of hazards which were only weakly linked to tectonics. Kobe, Northridge, Mount St Helens, Pinatubo and Martinique all featured prominently but with little or no explanation of their tectonic causes. On the other hand, some responses gave great amounts of detail on plate movements and margins with barely any reference to the consequent hazards.

Arid and semi-arid environments

Question 7

Not popular with very few sound or good answers.

In **(a)** very few answers identified more than oases and flash floods. Fossil groundwater supplies, exotic rivers and even playa lakes were rarely mentioned. In **(b)** desert soils were poorly understood although vegetation adaptations were better explained and exemplified. Human activities were particularly poorly described in relation to water supplies. Such aspects as nomadism and the clustering of activities at sites of water supply were mentioned only infrequently.

Question 8

Apart from a few excellent responses, this was a poorly answered question.

In **(a)** many chose to ignore the maps and plunged straight into an account of the climatic causes of aridity. Some misconstrued the maps and wrote about deserts existing in areas of high precipitation. Few were able to interpret high variations from the mean in the context of aridity. In **(b)** many answers dealt only with wind erosion and its products in terms of deflation hollows, Yardangs and Zeugens. Some included dune formation. Frequently, no mention was made of water erosion and no attempt was made to evaluate the erosive processes in terms of their currency today as compared to past pluvial periods.

Paper 9696/03

Human Options

General comments

The examination was the first to offer Paper 3 Advanced Human Geography Options under the new 9696 syllabus.

As such it was the first opportunity for candidates, Geography Teachers and Examiners to approach a live paper rather than a specimen one.

It was encouraging to note that whilst the syllabus requires the study of at least two of the Human Options (Production, location and change; Environmental Management; Global interdependence; Economic transition), most Centres had prepared candidates for three of them, and some for all four. This not only enhanced candidates' potential choice of questions but widened their geographical understanding, which is to be welcomed at Advanced Level. Although, as an entry, candidates responded to questions across the whole Paper, there were proportionately fewer responses to **Question 16** on regional disparities.

The new structure to the Paper provoked a few rubric errors, where candidates had answered two questions from the same Option. This is regrettable given the clarity of the question paper's layout and instructions.

The new structure to the examination, where Papers 2 and 3 were sat within the same three hour period was clearly a challenge to a significant proportion of candidates. Most noticeable in the scripts were signs of time pressure in what was produced, such as looseness of expression or note form being used, or, more seriously, signs of time restricting the production of two complete responses. Many candidates produced one full response and one fragmentary one, or two parts **(a)**, for instance, thus reducing seriously the total out of which the paper could be marked. Many candidates appeared simply to lack the time, rather than the geographical knowledge and understanding, to complete the paper. It is an area in which many candidates could benefit, perhaps, both from Centre advice and from more practice.

The standards of written English and expression were seldom anything other than satisfactory and could be very good.

It was encouraging to see some candidates using sketch maps and diagrams, where appropriate, for instance in **Question 12 (a)(i)** and in **Question 16**, to locate the chosen examples. Whilst question-specific comments on content follow, in considering the Assessment Objectives, Examiners commented on improvements in candidates skills, and in evaluation under 9696.

The overall impression from the entry is that the syllabus has been interpreted suitably by Teachers. Candidates do, however, need to be careful about the scale of the examples taken: overall they can be too broad for anything other than generalisations, or too narrow to develop an answer. To back this up specifically, for **Question 12**, broad contexts of Sub-Saharan Africa and the global tropical rainforest environment, were attempted. Narrowness usually meant the production of a single element answer, such as just HYVs in **Question 9 (b)**, or one type of fuel in **Question 11 (b)**, where at least two, and probably more, elements were needed.

The usage of local examples and contexts, by candidates, such as in **Questions 9 (b)**, **10 (b)**, **12**, **13 (b)** and **14 (b)**, is welcome. Local material, rather than restricting candidates' knowledge of the world, allows them to interpret their own surroundings geographically. 'Geography is all around you', as runs a slogan of the UK Geographical Association.

Comments on specific questions

Production, location and change

Question 9

(a)(i)   Few candidates could explain the term *land tenure* suitably, many regarding it simply as rental or as fragmentation, or wrongly as land-use. A wrong definition then restricted the following description.

   (ii)   Few candidates managed to describe both land-use and practices, here, tending to focus on one or the other. There were, however, some good discussions, for example, of motivation as it affects owner-occupiers and sharecroppers or of short-termism and long-termism, in, say, investment in land improvement or in the selection of crops.

(b)   The full range of answer quality was encountered, better answers being characterised by the detail of attempts (e.g. dates, crop types, names of schemes, localised examples) and evaluation of outcomes (e.g. successes/failures, unforeseen problems). Weaker answers might take loose examples from around the world or fail to provide any assessment.

Question 10

(a)   Whilst *industrial agglomeration* was generally understood in **(i)**, *industrial inertia* was not in **(ii)**. Some candidates saw agglomeration incorrectly as amalgamation or merger and many tried inertia as its opposite i.e. as deglomeration.

(b)   This was not answered well by most candidates, either because 'location' had not been seen as a key word, so a more general industrial response was made, or because there was little knowledge of government policy for the chosen country. A few good candidates either looked at policy change over time influencing location in different ways or considered other factors operative alongside government policy.

Environmental management

Question 11

(a)(i)   Many candidates compared the trend for the United States with that for Germany on Fig. 5B rather than with that for the world on Fig. 5A, which was a higher order demand. It appeared to be more an issue of not reading the question sufficiently carefully, rather than of lacking the skills to interpret, or the language to express, the trends.

   (ii)   Most candidates could indicate suitably why wind power is chosen as a source of energy, building up a number of reasons or developing points to achieve good marks.

(b) Two areas of weakness were observed. The first was that sustainability was interpreted narrowly to mean the availability of supplies. Thus, for instance, nuclear power generation was viewed as sustainable, ignoring the associated issues of hazardous waste and risk of accidents. The second was that few candidates had sufficient knowledge of the energy resource of the selected country to respond. Some simply covered the development of one or more alternative sources, such as wind, perhaps leaning heavily on **(a)**.

Question 12

This was one of the most successfully answered questions on the paper, where a specific environment had been chosen.

(a)(i) Choices were very varied: rural and urban; marine and terrestrial; MEDC and LEDC. Some were located precisely, perhaps with a sketch map.

(ii) Better answers identified factors rather than offering a general explanation and demonstrated the interaction of physical and human factors to promote degradation. Negative reasoning was creditable, such as the absence of government intervention.

(b) Examiners commended the attention given to detailed assessment of the attempts, rather than the simple description of what had been tried.

Global interdependence

Question 13

There was a much greater uptake on the international trade topic than was seen under the previous syllabus.

(a)(i) The term *invisible exports* was generally understood although some candidates did think that it was the monetary value, rather than the product, that could not be seen.

(ii) For Fig. 6, 'main features' was interpreted in a limited way by most candidates, as either just the trade balances or as the rank listing of the areas shown. Better answers approached this in a diverse manner or noted, for example, the dominance of MEDCs.

(iii) The reasons suggested for Western Europe's (large) share were adequate, although weaker candidates tended to see imports simply in terms of lacking raw materials and/or tropical products. Many candidates did well to mention the role of the European Union and the sizeable contribution of trading between the many nations of Western Europe.

(b) There were some limited responses focussed on a single product and some good ones, looking, for instance, at how membership of trading blocs had widened trade flows and lessened the influence of colonial ties, or at the lack of a language barrier between Anglophone nations.

Question 14

(a)(i) Few candidates could give an adequate response to the term *multiplier effect* as related to tourism, many seeing it simply as the tourist dollar multiplying and not recognising the development of other economic sectors, through increased purchasing power and not simply tourist demand.

(ii) Responses here were better, although an effective outline required scale and not simply increase/decrease.

(iii) Sensible observations about the nature of the statistics and supplementary material were offered, although many candidates failed to interpret 'nature of employment' effectively.

(b) These responses were some of the most conceptually sound and well-exemplified on the paper. That said, some candidates did seem to be arguing for unsuitability rather than instability, through such ideas as leakage and negative externalities. There was, however, much good appreciation of instability through such aspects as the tourism life cycle, seasonality, fashion and political circumstances. For the last of these, the events and aftermath of September 11 2001 provided a devastating example, unforeseen by the paper's setter.

Economic transition

Question 15

(a)(i)   A significant number of candidates misread the graph, reading off total percentages rather than recognising it as compound over time. As such both levels and trends were misinterpreted. Some covered all four economic sectors needlessly.

(ii)   The concept of linkages is firm, with most candidates recognising forwards linkages between the sectors but not backwards ones.

(iii)   *Quaternary* is a term that is now well-known.

(b)   Responses tended to be sound rather than high quality because most candidates agreed with and supported the question and did not see adverse economic effects or beneficial social and environmental ones. There was also limited exemplar support, although this was specifically sought.

Question 16

(a)   Answers were sound and showed suitable to good operative understanding of the theoretical underpinnings to regional development.

(b)   Quality depended on the example(s) chosen, with Brazil being, at times, seriously misrepresented, but Italy's Mezzogiorno better understood. Attempts to use nations such as Singapore were unfruitful and some weaker candidates saw this as a question about a country's development and not that of its disadvantaged constituent regions.