

GEOGRAPHY

Overall grade boundaries

Higher Level

Grade:	1	2	3	4	5	6	7
Mark range:	0-11	12-25	26-36	37-48	49-58	59-69	70-100

Standard Level

Grade:	1	2	3	4	5	6	7
Mark range:	0-13	14-27	28-39	40-49	50-59	60-70	71-100

Introduction

Teachers will be understandably pleased by the proportion of higher grades awarded for geography in the May 2001 examination and on reading this report, a number of reasons are evident. However it is worth noting the suggestions offered in the sections for Paper 3. Important objectives for candidates are writing well-structured answers and illustrating essay-type questions with appropriate sketch maps and diagrams. Further, space available on Paper 1 and the time available in the examination means that candidates should not write introductory paragraphs that simply restate a question. It also means that by doing this candidates are undermining the effectiveness of their answers. Suggestions about internal assessment should also be noted and especially comments about requirements. Teachers would also find comments about extended essays in the separate Extended Essay reports useful.

While these remarks are obviously drawn from papers on the present syllabus, they will be equally appropriate to the structured and essay-type responses provided in examination papers for the new syllabus which starts teaching this September, 2001. Teachers will render a service to their students if they encourage candidates to understand clearly, through practice, the way to write a sharply focussed and well-structured response. Similarly, the recommendations for Paper 3 apply to the new syllabus. Although at present only HL candidates take this component paper, which covers physical geography and mapwork, the comments on interpreting maps, using diagrams and case studies are important as these themes will be available as options for both HL and SL candidates in the new syllabus.

Overall, it would appear that the performance of the candidates suggest that in this fourth May examination under the present syllabus candidates are now familiar with its categories and expectations but there are still specific elements cited by the examiners needing improvement.

Internal Assessment

Higher Level

Component grade boundaries

Grade:	1	2	3	4	5	6	7
Mark range:	0-3	4-7	8-11	12-15	16-19	20-23	24-30

The range and suitability of work submitted

The majority of investigations were well chosen by teachers to cover contrasting themes in the syllabus. Some had designed their fieldwork programmes to encourage candidates to work more independently later in the course by devising their own hypotheses and methods of data collection. This approach allowed for easier differentiation in the marking and moderation process.

Most candidates presented one human and one physical investigation and a small number presented three in total; either approach was acceptable. The contrasting themes allowed candidates to employ a variety of different techniques in the field. The most successful investigations were those that had a firm theoretical basis and allowed hypotheses to be tested objectively through the collection of primary data. The least successful relied heavily upon description and the use of secondary data.

Candidate performance by each criterion

Criterion A – Observation, hypothesis formulation, measurement and recording of data in the field

Many candidates adopted the conventional format for the report and started with their overall aims, an introduction to the area of survey and the conceptual framework. This set the scene and provided the reader with some helpful background to the research. However, some candidates devoted too much space to long theoretical discussions that only partly related to their own investigation. For example, in some reports all urban models were discussed when only one was relevant or the whole of central place theory was explained when only the concepts of range and threshold were under investigation.

It is essential that candidates are given guidance over the development of hypotheses when the first fieldwork investigation is undertaken. The best hypotheses were those that had a predicted outcome, were concisely worded and could be tested through the collection of measurable data. In many cases the hypotheses were not justified and it was difficult for the reader to appreciate the rationale behind them.

The best candidates justified briefly their methods of data collection by explaining the sampling technique, the choice of survey sites and the time of survey. Shortage of primary data seriously limited the scope of some investigations and made the application of statistical tests difficult. In others secondary data such as census statistics were not supported by primary data, and dominated the investigation.

Criterion B – Selection, organisation and presentation of data

The standard of the written presentation in the majority of fieldwork reports was very good. It was pleasing to see that most candidates appreciated the need for cross-referencing and acknowledgements throughout. However, graphical techniques were sometimes inappropriate and uninspired. Many candidates produced computer generated graphs and maps, but the choice of technique was sometimes inappropriate. For example, line graphs were used with non-sequential data when bar graphs would have been more suitable. Alternatively, a sequence of monotonous pie charts was presented (one to the page) preventing comparisons from being easily made. The standard of map drawing has improved, but lack of key, scale, orientation and title continues to be a problem. Candidates should be discouraged from producing unnecessary maps of the whole country, but to focus upon the local area. Some of the most effective maps were those displaying data in the form of located proportional symbols.

Criterion C – Interpretation of data, analysis/discussion and conclusion

The best candidates analysed their data while referring closely to their hypotheses. They rejected or accepted their hypotheses by presenting reasoned arguments and related their results to the theoretical basis of the investigation. It was in the analysis and conclusion that the intellectual strength of the candidate was revealed and credit was given accordingly. The best candidates were able to critically evaluate their work and to suggest realistic extensions. Other candidates produced less convincing analyses where the hypotheses were accepted without reservation and there was no review of the methodology. In these cases conclusions were generally too short and consisted of apologies or excuses for unsuccessful outcomes.

Criterion D – Application of geographical theories and concepts

This criterion continues to be an excellent discriminator. The best candidates ensured that they showed an understanding of the theoretical background to their investigation and that it was referred to beyond the introduction. In the weaker reports the link between the theory and the data collected was often missing.

Recommendations for the teaching of future candidates

- Teachers should select investigations that allow candidates to maximise their marks though demonstrating a wide range of skills.
- Candidates should be discouraged from producing excessively long reports.
- Reports should be bound and long appendices omitted.
- Teachers should avoid clerical **errors** by following closely the Vade Mecum regulations. In this session the following errors were common:
 - The maximum marks for criteria C and D were reversed.
 - Two forms 3/CS, instead of one, were submitted with the work of each candidate.
 - Form 3/IA was not submitted.
- Teachers should note carefully the advice given by the moderator on the feedback to schools in form 3/IAF and ensure that errors are not repeated.

Standard Level

Component grade boundaries

Grade:	1	2	3	4	5	6	7
Mark range:	0-7	8-13	14-17	18-22	23-27	28-33	34-40

Most centres provide interesting, thoughtful and varied assignments covering a range of topics. Many centres base their assignments on hypothesis testing and each year more centres are including fieldwork. Unfortunately there are centres that have failed to understand the requirements of internal assessment. They do not seem to have read these reports, or the “feedback to schools”, 3/IAF form that is completed by the moderator who has assessed the samples. The teachers at these centres would benefit from attending the workshops organized by the regional offices of the IBO.

Many centres are sending samples that contain no teacher’s marks or annotation. This is a problem for moderators. IB requirements state that the original work should be sent to the moderator. The only way the moderator can be certain that it is the original work is if it has been marked by the teacher. If a piece of work (or the whole sample) is sent without marks or annotation, the moderator has no means of knowing how many drafts were made before the final piece was produced or to what extent the candidate has been helped. In addition, the teacher’s comments assist the moderator to understand how the teacher assessed the work, especially if the teacher has not included a copy of the assignments.

Candidate performance against each criterion

Criterion A

Many centres create assignments that allow the candidates to use a variety of skills though some centres concentrate on a limited number of skills. The least used geographic skill is the construction of maps and their uses which is frequently neglected. Photocopied material or material taken directly from Internet sites, merely to illustrate work, should be discouraged. Hand drawn maps and diagrams, neatly presented, should be encouraged.

Criterion B

While bibliographies are now appearing on most assignments, appropriate acknowledgment of sources of statistics, maps, diagrams, etc. within the assignments is often lacking. While the Internet allows candidates wonderful opportunities for research, there is often too much direct downloading of information directly into assignments. When Powerpoint is used to present material, these requirements also apply.

Criterion C

Teachers who assign work that involves answering a question, rather than researching a topic, provide a far greater opportunity for their candidates to fulfill this criterion. Those assignments that involve researching a topic usually result in little discussion and too much description. Some teachers further hinder the efforts of the candidates by assigning highly structured or prescribed assignments and frequently provide all the material needed to complete the assignment. The focus here becomes comprehension rather than discussion.

Criterion D

When the assignments are all highly structured, there is little opportunity for the candidates to show reasoned and balanced judgment.

Recommendations

- Teachers should create a variety of assignments that allow candidates to fulfill the criteria for internal assessment.
- Teachers should discourage downloading/photocopying of material (maps, pictures, diagrams) unless this material has a specific purpose, such as an outline map or a picture/diagram that will be annotated.
- Bibliographies and appropriate attribution of materials should be required for all assignments.
- Examination/test questions are not appropriate pieces of work to include in samples of coursework.
- The original assignments, with teacher annotation, should be included in the samples.
- Teachers who are having difficulties with the requirements of the geography course are strongly recommended to attend a geography workshop in their region.

Paper 1

Component grade boundaries

Grade:	1	2	3	4	5	6	7
Mark range:	0-5	6-11	12-16	17-21	22-25	26-30	31-40

Teachers' comments on Form G2 continue to be an invaluable source of information for judging the suitability of exam papers. The overwhelming majority considered the paper to have been of appropriate difficulty and either satisfactory or good in its coverage, clarity of wording, and presentation. While a number commented favorably on the clarity of its graphics some noted that the paper proved time-consuming and ranged across a wide spectrum of cognitive skills.

With these considerations in mind, the markscheme was amended to recognise probable intent on the part of candidates, rather than expectations of correctly worded answers, and the result has been beneficial to candidates: while few achieved very high or very low marks, the great majority were able to accumulate sufficient marks to place them in the middle and upper middle bands.

Areas of the programme that proved difficult for candidates

The problems that arose were related to certain skills rather than to content of any of the five core themes. Terminology, especially "gentrification" and "push and pull" was a problem for many, as were the cognitive skills of describing, explaining, and synthesising. As a result, too many answers were basic, if not simplistic; some were not even expressed in sentence form. By far, however, the most common causes of difficulty were the misreading of questions and the failure to use the stimulus material printed at the top of each question. It was clear from examiners' reports that a notable feature of this year's exam was the extent to which candidates from certain centres were able or not able to respond appropriately to the questions set. The implications of this are taken up at a later stage in this report.

Levels of knowledge, understanding, and skills demonstrated

This exam allows the less able to accumulate marks while providing opportunities that test the more able. The result is often a large percentage of candidates achieving marks to pass but with many fewer in the very high or very low range. This was again evident in the May exam. Most candidates revealed a basic knowledge in all areas of the syllabus but only the stronger ones offered detailed answers supported by case studies. The hazard question continued to earn them higher marks but, again, the weaker candidates struggled with the less familiar effects of urbanisation on the character and behaviour of a river, some simply equating urbanisation with industrialisation. Graphing skills were acceptable although in some cases marks were lost by inaccuracy or untidiness. Plotting of the scattergraph in question 4 was generally well done. It was clear that some students did not understand the concept of best-fit, much less how to graph it. This shortcoming was so closely associated with certain centres as to suggest that teachers had not taught that particular skill.

Strengths and weakness in the treatment of individual questions

QUESTION 1

Almost all candidates were able to draw the population pyramid. The markscheme made allowance for the small scale of the graph paper and few candidates were penalised for plotting; nor were they penalised when labels were placed in other than the conventional positions. Marks were lost, however, for incorrect or incomplete labelling, and for untidiness which impaired the effectiveness of the diagram. In question (b) most candidates understood the concept of a dependency ratio, and the age breaks and groups involved, although the term “variable” proved a source of difficulty for some. It was in question (c) that their understanding of population structure was most evident. A small number of candidates were unfamiliar with pyramids. Weaker candidates tended to confuse high and low death rates but stronger ones went on to associate the pyramid’s structure with that of an EMDC in stage 4 and to recognise the dynamic of a declining birth rate. Few candidates failed to gain 1 mark in question (d).

QUESTION 2

This question was not well answered overall. There was poor understanding of differential levels, problems and strategies of development focussing on the location of industry in EMDCs and ELDCs. The two diagrams were not well understood and many of the candidates’ responses made little reference to them. Responses to question (a) sometimes spoke of relationships between CBD and suburbs and others between urban and rural areas. Some candidates thought the diagrams referred to population dispersal while others wrote in generalities which did not distinguish the process in terms of EMDC and ELDC. There was, in other words, a frequent failure to read the question carefully or thoughtfully, and few candidates gained a third mark for depth of understanding in their description. A similar comment could be made of responses to question (b): while most candidates identified reasons, especially for EMDC, their answers lacked depth. While the majority seemed to recognise the centrifugal processes at work in EMDCs, many struggled to see the centripetal one in ELDCs. There was generally a poor level of reasoning and lack of depth, detail, and clarity. In question (c), while most candidates gained 1 mark, their answers tended to be short and many did not have sound grasp of the social impacts of industrialisation in ELDCs. Some of those who chose to describe the rural impact confused agricultural mechanisation with industrialisation. Few referred in any detail to the impact of rural-urban migration of young men on their rural communities. Some, in writing of urban impact, did refer to shanty towns, but all to few went on to describe the social effects of unemployment, crime, and deprivation. In spite of the bold print in the question, a few candidates misread it and wrote in general terms of both rural and urban areas in an ELDC.

QUESTION 3

While the hazard question continues to be “popular” responses to this particular one were mixed. Most obtained 1 mark for question (a) although few explained the way in which natural processes implicit in hazards can be affected by human intervention. Some candidates misread question (b) and overlooked the fact that flooding was the topic to be addressed. Most, however, made valid points and the stronger answers were well supported by case studies. Nevertheless, some had difficulty choosing one of the three impacts and applying it either to an urban EMDC or rural ELDC in any detail. Although question (c) was worth only 1 mark it discriminated well between stronger responses and weaker ones. It asked candidates to explain. Far too many referred simply to dams bursting or embankments overflowing, rather than explaining how human interference in nature could make matters worse. Many candidates were able to respond to question (d) by outlining three ways in which flooding could benefit rural areas; fewer were able to name four. The markscheme allowed for this by permitting credit for either four ways or three different ways, provided the detail was not simply repetitive.

There were some very good answers to question (e) from stronger candidates but many showed little understanding of how rivers are affected by urbanisation. Some equated urbanisation simply with industrialisation; others wandered into the general area of environmental pollution. While some were clearly able to use their knowledge of the hydrological cycle to provide impressive answers, it is surprising that so many candidates did not seem to have a broad understanding of the impact of urbanisation. The markscheme made clear that the question was concerned with neither the range of natural hazards nor simply human response to events, but with attempts at management, and that it was based on the sub-theme of natural hazards with links to problems and strategies of development. It might also have mentioned a link to urban issues in the core syllabus (5.4). Clearly, urban development in both ELDCs and EMDCs is having a dramatic effect on the character and behaviour of many rivers in the world. It is, and should be, a core topic for SL and HL candidates.

Before leaving question 3, it is appropriate to comment on the continuing failure of many candidates to study the stimulus material carefully before responding. True, the material was not preceded by the command term “study” but by two paragraphs which defined hazard management and drew attention to flooding in two settings; nevertheless, many responses suggested that the insertion of a command term would have made little difference. Too many candidates failed to see the clear message conveyed by the two photographs: the economic (monetary) impact of hazardous events is greatest in EMDCs (note the submerged cars and shops, and the newspaper reporting the millions of dollars of damage), while the social effects (involving things affecting life itself such as food and water-borne disease) are greatest in the ELDCs. These differences are reflected in management priorities in both ELDCs and EMDCs. Geography students should be taught *from the outset* to study visual evidence, whether in the field or in document and to cite it whenever they are answering questions, writing essays, doing projects for internal assessment, or indeed simply working as geographers work. It is a fundamental demand incumbent upon all geography teachers and one that is clearly recognised in by the extensive use of stimulus material in all of our geography examinations.

QUESTION 4

Most candidates scored well on question (a). Plotting was generally accurate — pleasingly so — although most candidates chose not to label the individual countries they had plotted. For this they were not penalised. Ideally the countries should have been labelled on the

scattergraph (see Subject Reports from the past 4 years); but the question did not specifically require it, the scripts suggested that some schools do not teach it, and no part of question 4 was specific to a particular country. Credit was therefore given for accuracy of plot, whether labelled or not, although it was withheld when the axes were either labelled carelessly or not at all. Examiners awarded further credit for best-fit lines which divided the plots equally or almost so.

Question (b) also presented little difficulty for candidates although their responses were brief and often implicit rather than explicit. Question (c) was more open-ended and a good discriminator. There were certainly some impressive answers which were detailed, developed, and well illustrated from the data provided in the table; these fully merited the 4 marks available. Most recognised the significance of the type of farming but failed to expand or illustrate the idea with data from the table. Many candidates did not appreciate all of the variables involved: different types of farming and different types of countries (in terms of development) using differing amounts of fertiliser. Once again, those candidates who failed to respond to the stimulus material performed less satisfactorily on this question.

QUESTION 5

In question (a) far too many candidates either misread the question or did not understand the characteristics of “push” and “pull” factors. As a result, they used “pull” factors in explaining why centrifugal forces act in EMDC urban areas, rather than the “push” factors that cause people to leave the inner city. Nevertheless, examiners sought to give credit where possible, even when they had to do so by inference. The majority of candidates therefore gained at least 1 of the 2 marks available.

There were some very good references to urban renewal and “pull” factors promoting it in question (b) and strong answers cited examples such as the London Docklands project. Weaker candidates appeared to be discussing “pull” factors in ELDC cities — a clear misreading of the question. Many confused the inner city area with either the city centre or CBD proper; when in fact many people are drawn back to the inner residential areas close to the centre.

The term “gentrification” was a source of mystery for many candidates and often those who knew its meaning were content simply to describe what was happening -rather than explain why the process occurred. Some equated it with government investment in urban renewal or public housing; whereas, by its nature, the process depends upon those with personal financial resources to invest. The term has been in currency for at least 10 to 15 years and it is arguable that it should be familiar to those studying urban geography.

Question (d) was answered adequately, but rarely with much depth. Many answers were brief and referred simply to factors such as “cheap land” rather than in the context of the question which related industrial location to the movement of labour and other social and industrial change in urban areas.

Type of assistance and guidance teachers should provide for future candidates

- Study all areas of the syllabus
- Read questions carefully and ensure that the question asked is answered. Provide extended answers that are clearly expressed and reveal depth. Be familiar with geographical terminology
- Practise neatness, precision, and labelling in all graphical work, using rulers for all straight lines.
- Understand the meaning of command terms such as describe explain, give reasons for etc.
- Practise basic skills of representing, reading, and interpreting data
- Always be prepared to illustrate concepts with specific facts, case studies, illustrations
- Understand the importance of good examination technique and practise it. For example obey the rubric of an exam: if a question asks for two reasons, then two clear, well-outlined and well-illustrated reasons must be given in order to obtain maximum marks.
- Practise all of the above skills in mock exams

Paper 2

Component grade boundaries

Grade:	1	2	3	4	5	6	7
Mark range:	0-7	8-15	16-22	23-27	28-32	33-37	38-60

This year's Paper 2 examination seemed to be well received in most schools, and presented no significant difficulties at the examination level. This examination was the seventh to test the current Geography Subject Guide, and the fourth to do so for a May candidature.

Overall, the standard of responses in this paper was very pleasing, and considerably better than any experienced during the past few years. The high proportion of candidates awarded grade 7 and grade 6 reflect the higher than normal quality of the responses. The questions were generally fairly even in terms of popularity, although one question was markedly more popular than the others: question 1 was attempted by 90% of candidates compared with 26% attempting the least popular question (question 3). The popularity of the remaining questions (in descending order of popularity) were question 5, 54%; question 2, 48%; question 6, 47%, and question 4, 35%.

Responses of a high quality were received for all questions on the paper, and the mean marks for the six questions showed substantial uniformity. The mean marks (out of 20) for the six questions were: question 1, 11.2; question 2, 10.8; question 3, 11.1; question 4, 9.6; question 5, 11.8 and question 6, 11.4.

Some overall reflections on the examination precede an analysis of the paper on a question by question basis:

1. Several schools expressed concern that question 3 (natural hazards) may have proved difficult for candidates because of the requirement to include a case study of a contemporary hazard event. A contemporary event was defined as one occurring during the two year study of the Diploma course. Although the restriction on the timing of the hazard event probably reduced the

popularity of this question, especially in schools where a heavy reliance is placed upon text books, the quality of responses was typical for the paper as a whole. There was no evidence of candidates being forced by this question to attempt another which had to be answered at a lower standard; as mentioned above, the overall quality of responses was the highest for many years.

2. The initial part of each question was designed to test candidates' descriptive skills and it was evident that these are being regularly practised in the classroom. Many candidates first scrutinised the data and then described it methodically. Occasionally, candidates gave reasons that were not required and, although no penalty was imposed, time was wasted. In later parts of the questions candidates were given the opportunity to demonstrate their knowledge of processes and to apply appropriate case studies. Some showed a sophisticated understanding while others gave very generalised and simplistic answers. Weaker candidates' responses were often brief and unconvincing with little hard factual evidence given to support the answer.
3. Teachers should encourage their candidates to include well-drawn, large and relevant sketches, tables or diagrams as often as applicable. Papers in earlier years used to include an explicit instruction to this effect on the cover page, and the expectation remains. This recommendation also appeared in last year's report, but does not seem to have been acted upon in many schools. Candidates results are improved with the use of relevant maps and diagrams.

The remainder of this section of the report looks at the Paper 2 examination on a question-by-question basis. Teachers are encouraged to read this report along with a copy of the examination paper.

QUESTION 1 Population structures

This question was based on two population pyramids given on the examination paper, one for Europe and the other for Africa. In part (a), candidates were required to describe the differences between these two population pyramids. Most candidates successfully noted the wide base shape of the population pyramid in Africa compared with the more parallel-sides shape of the European population pyramid, and the higher proportion of females than males among the elderly in Europe compared with the more even gender balance in Africa. Many candidates also noted the higher proportion of children in Africa than Europe, the higher proportion of working age population (15- 64) in Europe than Africa, and the higher proportion of elderly people in Europe than Africa.

In part (b), candidates were asked to suggest reasons for these differences described in part (a). Although it was not required, some candidates profitably related the population structures in the diagram to the demographic transition model to provide a framework in which to answer this question. Most candidates were able to identify the reasons for the contrasting population structures, including the social, cultural and religious attitudes which lead to contrasting birth rates, the demographic and economic factors that cause different death rates among both infants and the elderly, and the economic and social factors which influence the numbers of children in each family. Some weaker candidates attempted to argue that national population policies markedly influence the population structure of either Africa or Europe as a whole; these suggestions were treated on their merits. The few responses which made no mention of specific countries were not be awarded more than 4 marks, and then only for outstanding analyses of the general reasons behind the two contrasting population structures.

Candidates were required to explain the consequences for planners of each population structure in part (c). Better candidates noted that the consequences of the population structures will be felt in two main spheres — consequences for infrastructure (such as services and facilities, schools, hospitals and transport) and consequences for demography and population planning. Better candidates discussed each of these two areas, noting that in

Europe, the population structure places increased demand on services for the elderly, while in Africa there is increased demand for services for the young. Most candidates were able to note that in Europe, the pressure in the policy area is to arrest the declining population in some countries, while in Africa the pressure is to limit population growth. It was pleasing that most candidates provided reasonably balanced discussions of both Europe and Africa.

QUESTION 2 World food production

In part (a), candidates were required to describe the trends in per capita food production in different regions/continents during the period 1961 to 1996 which were shown in the diagram on the examination paper. This question was well done, with almost all candidates noting that over the period 1961 to 1996, food production per capita has increased most in Asia (by 66%), followed by Europe and Latin America (by 30% each). On the other hand, food production per capita has declined in Africa (by 10%) and most markedly in the former Soviet Union (by 18%, with the most severe decline occurring after 1990). The main difficulty faced by many candidates in answering this question was a lack of understanding of index figures; many candidates mistakenly treated the index figures as absolute production figures and tried to make sense accordingly.

Candidates were expected to outline the reasons for the different performance of any two of the regions/continents shown in the diagram in part (b) of the question. Candidates' responses varied according to the continents/regions selected. However, most responses included a variety of economic, political, demographic, technological and social factors to explain the changes during the period 1961 to 1996. Some poorer candidates attempted explanations of changes outside the period 1961 to 1996, and these were not relevant unless clearly intended to illuminate the changes during the period shown in the diagram. Better candidates noted that physical factors were usually less significant than human factors when considering changes on a continental scale over the 34 year period in question.

In part ©, candidates were asked to suggest realistic measures that could be taken to reduce malnutrition in the world today. Most candidates successfully identified current causes of malnutrition in the world and suggested measures which are not politically, socially or economically impossible to address these causes. Better candidates recognised that while insufficient food production (or diversion of farmland into non-food agricultural products) is perhaps a problem in Africa and the former Soviet Union, the overall problem is appropriate distribution of abundant food resources rather than shortage of production. Weaker responses focussed simply on treating the symptoms of malnutrition rather than the causes.

QUESTION 3 A hazard event

The aim of this question was to examine candidates' use of contemporary events occurring during the two-year period of their Diploma study, relating these to the specific topic area of hazards. In part (a), candidates were identify a recent hazard event by stating the date (or period of time) when it occurred, naming the country and city (or area) within the country where it occurred, and briefly outlining the impact of this hazard event. Responses to part (a) were generally excellent, adequately 'setting the stage' for the responses which were to follow by identifying the hazard and hazard event which will be discussed, accurately stating the date or period of time when it occurred, identifying the location of the hazard event and briefly outlining the impact of the hazard event. Almost no candidates used an example of a hazard which was prior to their I.B. Diploma studies (i.e. before May 1999), and where hazard events extended beyond this period (such as desertification which began before the two year period but continued during it) full credit was allowed.

In part (b), candidates were required to draw a half page sketch map at a scale which appropriately showed the location and extent of the hazard event. This was the most poorly done part of the question, with many candidates displaying little evidence of having drawn sketch maps before this examination. A sketch map which showed with reasonable accuracy the location and extent of the hazard event, given the constraints of limitations of time in examinations, and which included all the components listed in the question, was usually awarded full marks.

In part (c), candidates were required to describe the natural causes of the hazard event. There was considerable scope for candidates to demonstrate their understanding of physical geography processes in this open-ended question, and most candidates provided excellent descriptions. Responses varied according to the natural hazard selected, but most candidates successfully showed an accurate understanding of the physical forces which caused the natural hazard event.

Candidates were required to discuss the short-term and longer-term responses that occurred following this hazard event in part (d) of the question. As with part (c), responses to this open-ended question varied considerably according to the hazard event selected, but in general they were very well done, displaying a detailed understanding of the hazard event selected. Better responses included a solid explanation of short-term (or immediate) responses to the hazard event, a solid explanation of the longer-term responses, plus specific illustrative examples, or factual data, or perceptive insights into the responses to the hazard event.

QUESTION 4 World economic growth

Candidates were asked to describe the broad world pattern of economic growth shown in the map in part (a) of this question. Most candidates recognised that the most rapid economic growth between 1990 and 1997 occurred in the newly industrialising nations of East Asia, South-east Asia, South Asia, western South America and south-eastern South America. Better candidates also noted that there were some other isolated examples of rapid economic growth such as Sudan, Ireland and Poland. Most candidates correctly observed that the areas where economic growth was slowest (in fact negative) were the countries of the former Soviet Union, much of Africa and the Arabian peninsula.

In part (b), candidates were required to identify the factors leading to different rates of economic growth in various parts of the world during the period 1990 to 1997. Candidates provided a range of acceptable emphases in their responses, but most focussed on explaining the reasons for negative economic growth in the “less than 0%” category and the rapid growth in the “3.0% or more” category. Negative growth was explained in part by political changes in the former Soviet Union, by demographic changes in Africa and by changing balances in world trade for the Arabian peninsula. The strong growth in parts of Asia and South America was largely explained by the consequences of rapid industrialisation, often fuelled by government policies promoting rapid transformation from subsistence-dominant to commercial-dominant economies. Candidates were free to emphasise other causes of varying rates of economic growth, and their arguments were treated on their merits on the bases of accuracy and relevance.

Candidates were required to name one country in part (c), and then discuss the factors which are currently working to (i) slow down and (ii) speed up economic development in that country. Responses varied enormously according to the country selected by the candidate. However, most candidates recognised that forces slowing down economic development usually included some combination of difficult physical environments, political instability,

debt, environmental degradation, historical geography, low investment, and dependence on primary product exports, while forces speeding up economic development often included factors such as growth of tertiary sector, growth of manufacturing, strong agricultural growth, economic reforms, export growth, and migration. Better candidates noted that government policies were often a factor working in either direction, or in some cases, in both directions simultaneously. Better candidates included some relevant statistics and/or illustrative examples from within the country selected.

QUESTION 5 World trends in urbanisation

Candidates were asked in part (a) to suggest likely reasons for the different trends in urbanisation in any three countries shown in the diagram. It was not necessary for candidates to have detailed knowledge of the three countries selected from the graph, as the question focused on “likely reasons” and thus allowed reasonable speculation based upon knowledge of the general nature of countries at different stages of urbanisation. Better responses included relevant statistics about the three countries selected to make explicit valid comparisons of urbanisation.

In part (b), candidates were required to discuss the problems caused by rapid urbanisation in economically less developed countries (ELDCs) with the aid of specific examples. Most candidates successfully discussed problems which were the direct result of rapid urbanisation, although some weaker responses simply described problems of economic development in general. The problems discussed usually included shortage (and quality) of housing, high population density in some urban areas, urban unemployment, pressures on urban transport and other infrastructure, depopulated rural areas, gender imbalances in rural areas (and to a lesser extent also in urban areas), urban sprawl, and so on. Better responses used illustrative examples successfully to amplify the arguments.

QUESTION 6 Integrated themes

To answer this question adequately, candidates had to have some capacity to integrate their knowledge of four of the five themes of the common core of the course. In part (a), candidates were required to describe the relationship between an agricultural measure (percentage increase in the number of tractors) and a settlement measure (percentage of the population living in urban areas). Almost all candidates noted that there was generally an inverse (or negative) relationship between these measures, with countries having a high percentage increase in the number of tractors being those countries which tend to have a low proportion of the population living in urban areas. Better responses also gave relevant examples and statistics to support this point.

In part (b) of the question, candidates are required to describe the relationship between a population measure (average annual population change 1995-2000) and a measure of economic development (GDP per capita). Once again, almost all candidates noted that there was generally an inverse (or negative) relationship between these measures, with countries having a high GDP per capita being those countries which tend to have a low average annual population change 1995-2000. Better candidates provided relevant examples and statistics to support this point, especially citing the statistics for Bulgaria which were contrary to the general trend.

In part (c), candidates were asked to state the names of two countries shown in the table which had quite different patterns of statistics, and then suggest reasons for the differences shown. Candidates’ responses varied according to the countries selected in this open-ended question. However, most candidates successfully discussed all four measures for each of the

two countries, with conclusions drawn about reasons for the differences. Candidates were free to select the organising framework for their response (i.e. factor by factor, country by country, etc), but in general candidates noted that the reasons for the differences tended to arise from the consequences of different levels of economic development.

Paper 3

Component grade boundaries

Grade:	1	2	3	4	5	6	7
Mark range:	0-7	8-14	15-22	23-28	29-34	35-40	41-60

General comments

The general standard ranged from excellent to very poor, though overall, the number of candidates who achieved marks in the higher bands was slightly higher than in previous years. Almost all of the candidates answered the correct number of questions and all were able to follow the rubric by answering the correct number of questions from the relevant sections. Only a very few appeared to have time difficulties and most candidates were able to allocate their time effectively between questions. Almost all of the candidates labelled their answers very clearly. The standard of maps and diagrams, however, continues to be disappointing.

Areas of the programme and examination which proved difficult for the candidates

There was little evidence to suggest that areas of the programme had been neglected. The main problems evolved from a lack of skills in the use of illustrative examples, presenting diagrams, using statistics from the information provided to support answers and in the correct interpretation of questions. If there were any weaknesses, these were in confusing the factors that cause urban climates with those that cause the enhanced greenhouse effect, in the calculation of the scale of the aerial photograph and in misreading the map key by confusing areas subject to inundation with marsh and swamp. A significant number of candidates were not able distinguish between energy issues and resource management and concepts such as conservation, recycling and substitution were often overlooked.

Areas of the programme and examination in which the candidates appeared well prepared

Knowledge of the formation of volcanic islands was often impressive with a variety of possible explanation often being given. Similarly there were many interesting and effective case studies illustrating human abuse of the water cycle.

The strengths and weaknesses of candidates in the treatment of individual questions

Section A

QUESTION 1 Topographic Mapping

Part (a) was poorly done and large numbers of candidates were unable to calculate the scale accurately at 1:16,000 and marks were frequently lost with inadequate or superficial explanations of the technique used. Part (b) was generally well done. Almost all candidates identified the purpose of the factory and give reasons for its location though the use of the river for transport was often, incorrectly, stated. A number of candidates had problems estimating the relative size of the factory and often used the wrong units in cases where dimensions were given. Part (c), identifying changes from the map to the more recent photograph caused some problems. Many candidates were able to give map evidence of the expansion of the town, but not enough use was made of grid references. Few noticed that one bridge over the river had been demolished. Many incorrectly identified areas subject to inundation on the flood plain of the Bega River as marshes and stated that they had dried up or had been drained for use as farmland, whereas the river was simply not in spate in the photograph leaving the floodplain free for normal agricultural uses. Part (d) was also not well done generally as many candidates did not confine their answers to physical factors by including communications in stating why this was a good location for a town, though many were able identify some hindering factors, though again marshland was confused with areas subject to inundation. Part (e) was well done with many candidates outlining the advantages of the map in terms of scale, contours, place names, types of buildings and roads and the presence of a key, while the photograph gave a more updated representation with more detailed buildings, actual colour, details of the river channel and vegetation. The best answers compared the relative merits of the map and the photograph.

Section B The Natural Environment

QUESTION 2 Human activity and urban climates

There were some excellent answers to this question which considered not only the causes of urban heat islands but the other variables that characterise and urban microclimates such as wind, precipitation, visibility, air composition, humidity and sun hours. The best answers here referred to case studies. Unfortunately, a number of candidates did not go beyond a consideration of pollution or mistakenly entered into an explanation of the causes and consequences of global warming.

QUESTION 3 The formation of volcanic islands

This was a popular question and generally well answered. Almost all candidates recognised the feature as a volcanic island. Good answers then outlined the formation of volcanic islands at constructive margins, subduction zones (though not all mentioned island arcs) and hot spots. The best answers included examples as well as accurate and well labelled diagrams of all three of the above, but, overall, the standard of diagrams was variable and a number of candidates seemed unsure of the effects of plate movements. Some candidates described the formation of some of the fluvial and coastal features shown on the photograph and attempted to explain the structure of the volcano itself, all of which was considered valid. Weaker answers were often confined to one type of plate margin only.

QUESTION 4 Alteration and abuse of the water cycle

This question also produced some good answers, most of which referred to case studies of river basins. There was a tendency for the weaker candidates to concentrate solely on channel modification and flooding, (especially with reference to the Mississippi), without reference to human interference with other elements of the water cycle within a basin, or, to focus only on water quality in a general way. The best answers examined changes in infiltration, runoff, surface, soil and groundwater stores and evaporation caused by human intervention, mainly through agriculture, forestry, urbanisation, irrigation and the construction of storage schemes. Some candidates pointed out quite rightly that human intervention does not always result in abuse of the cycle.

QUESTION 5 The destabilisation of ecosystems

Here, the best answers focused on a small scale ecosystem or a small part of a larger one, allowing the candidate to demonstrate an understanding of the structure and functioning of the system before giving the factors that can lead to destabilisation. Many answers were too general however and did not show a sufficient grasp of the complex processes and interrelationships that exist. Some candidates examined a range of hypothetical human and natural destabilising factors. Others concentrated on one factor such as deforestation. Good marks were only achieved if the candidate was able to explain the way in which destabilisation had occurred through the disruption of cycles or linkages and the consequences of these changes. The more mediocre answers usually referred to the rain forest without saying which country or which part of it, mentioning deforestation in vague terms and displaying little knowledge of the areas affected the most severely or the specific causes of this.

Section C Resources

QUESTION 6 The global pattern of commercial energy consumption

Candidates were generally able to describe the pattern shown on the map though a significant number did not refer to statistics or give countries as representative examples. Most were able to relate the pattern to levels of economic development. Some candidates misread the map and explained variations in the pattern of oil consumption only. The main problems that emerged seemed to stem from relating levels economic activity to commercial energy consumption in terms of differing lifestyles, industrial development, mechanisation, transport. Many failed to recognise the fact that only commercial energy was included and this would result in even lower figures for subsistence economies where fuelwood and dung were major energy sources.

QUESTION 7 Problems of resource management in two countries

This was the least popular question. Almost all candidates followed instructions and chose two countries from different categories on the map. The majority of answers referred to energy resources. The main failing of the majority of candidates was that they simply described the problems of management in each chosen country without comparing them. A surprising number of candidates did not mention strategies such as conservation, recycling or sustainable development.

Recommendations and guidance for the teaching of future candidates

Many of these recommendations have been given before but bear repetition:

- more practice is needed in the conversion of map scales
- candidates should be encouraged to quote more evidence from the map to support their statements
- emphasis should be placed on understanding the command words so that candidates do not explain when asked to describe, or describe when asked to compare
- teachers need to place real emphasis on the value and importance of well drawn maps and diagrams that are often invaluable in supporting an answer
- teachers should encourage candidates to plan answers to essay questions — too often such answers lack clear structure — but candidates should avoid introductory paragraphs that simply restate the question
- candidates should be encouraged to include more case studies and examples in their answers and avoid generalisation.

