GEOGRAPHY

Paper 2217/12

Paper 12

Key Messages

In order for candidates to perform well on this paper, they needed to be able to:

- ensure that the examination rubric is followed correctly, answering three questions only, one question from each of the three syllabus themes *(i.e.* ***Question 1 or 2****,* ***Question 3 or 4****, and* ***Question 5 or 6****).*
- answer **all** parts of the chosen questions. Questions requiring the completion of a map or graph are omitted by some candidates.
- read the question carefully – it is important to spend time doing this. If it helps, underline command words and words which indicate the context of the question.
- know the meaning of and respond correctly to command words used in questions. In particular, know the difference between 'describe' and 'explain'.
- identify the correct focus specified in the question stem – for example, causes or impacts, natural or human environment. Some candidates do not respond to key words such as CBD (**Question 2(c)**), relationship (**Question 4(b)(ii**)) or political (**Question 5(b)(iii)**), rendering their answers largely irrelevant.
- learn the meanings of key words in order to be able to define and accurately use geographical terminology. When defining words or phrases, candidates should not simply repeat a word or words as part of their definition.
- describe a distribution from a map and name features to support their answer.
- describe the location of a feature or place, supporting this by giving distances and directions from named places.
- use the mark allocations and answer space provided in the question and answer booklet as a guide to the length of answer required and the number of points to be made. Some candidates write overlong answers to questions worth few marks at the expense of including detail in those requiring extended writing.
- write as clearly and precisely as possible avoiding vague, general statements.
- write developed ideas wherever possible where extended writing is required in the final two parts of each question, ensuring that ideas are developed with the correct focus.
- perform basic skills such as interpreting graphs, photographs and maps of various types, using accurate statistics or referring to specific features as appropriate to support ideas.
- approach questions which ask for comparison by writing comparative statements rather than writing discrete comments about each item being compared.
- avoid direct lifts from resource materials when a question asks for interpretation of ideas.
- have a range of case studies so that appropriate ones can be chosen for the topics tested and ensure they are aware of the scale of the question – for example, city or country or area.
- include place-specific information in case studies, whilst avoiding writing a long introduction to the question with place detail at the expense of answering the question.
- make it clear, when using the extra space at the back of the question and answer booklet, that the answer is continued and indicate the number of the question accurately.

General Comments

The examination was considered appropriate for the age and ability range of candidates and it differentiated effectively between candidates of all ability levels. As always, the most able and well prepared candidates performed very well across the paper and some excellent answers were seen. Most candidates were able to make a genuine attempt at their chosen questions; weaker candidates, however, found it difficult to interpret tasks and write effective responses to some or all questions.

Some candidates disregarded the rubric by answering four questions; however, it was rare to encounter papers where all questions had been attempted. Usually, if all questions had been attempted they were all very weak. Some stronger candidates, however, crossed out several lengthy answers, wasting time which could have been spent working on their chosen answers.

The handwriting of some candidates was difficult to read. Whilst it is accepted that candidates are writing under time pressure, it has to be noted that few, if any, candidates actually seemed to be short of time. It is vitally important that all answers are legible, as answers which cannot be read cannot earn marks.

Question 1 was the most popular and **Question 5** was the least popular and the least well answered overall. There were many good attempts at all the case study questions, the final part of each question, particularly population measures, deforestation and protecting the natural environment. High quality answers in these case studies were characterised by a range of developed ideas and occasionally some place detail. Some weaker responses tended to be generic developments of ideas with little place detail to support them, whilst others were characterised by the use of simple statements. In some cases, the detail provided was largely irrelevant to the question being asked, including long and unnecessary introductions, some of which occupied almost all the answer space.

Case studies require place-specific place information to allow access to the highest level. This requirement can vary between questions – a country (**Question 1**) or an urban area, for example (**Question 2**). Some candidates do not carefully consider their choice, limiting their mark by inappropriate choices, choosing a country, for example, rather than an urban area or vice versa. Where an 'area' is required (**Questions 3** to **6**) choosing a country usually tends to be unacceptable as this is likely to be too large a scale.

The following comments on individual questions will focus upon candidates' strengths and weaknesses and are intended to help Centres better prepare their candidates for future examinations.

Comments on Specific Questions

Question 1

(a) (i) Most answers were correct, although some candidates inexplicably missed out the task.

(ii) This was generally well answered, although weaker candidates were unclear how to express the idea of subtraction, some not making it clear that the death rate was subtracted from the birth rate.

(iii) Most candidates recognised that growth is greater in the north, and supported this by suitable comparative data from the key, though a few did not compare the north and south as required. Few candidates named individual states with supporting data or identified anomalies, of which there were several. Common errors were answers given in terms of population density or absolute size, and/or referring to cities rather than states.

(iv) Many candidates identified a range of reasons from the mark scheme. Weaker answers tended to refer vaguely to 'services', 'facilities', 'better infrastructure' or 'crime' whilst some just focused on one issue rather than identifying several reasons. An error made by some candidates was to explain what positive and negative migration were and refer only generically to 'push and pull factors' rather than giving examples of either. Some candidates gave opposite pushes and pulls for which no additional credit was given.

(b) (i) This was a good discriminator. There were some excellent answers which contrasted the growth rates in the two periods with accurate statistics throughout. A significant misunderstanding was to refer to birth rates and death rates with detailed statistics but failing to link these indicators to growth.

(ii) There were many good answers which identified a range of appropriate reasons. The emphasis was usually on improving health care, sanitation and diet.

(c) There was a range of case studies and the focus of answers should have been on describing the policies rather than writing about their effects which some candidates included. Whilst anti-natalist policies, such as those deployed in China, were dominant, there were some relevant answers about Russia, France, Sweden and African countries such as Botswana, with some of the chosen case studies referring to appropriate pro-natalist policies. Some answers gave excellent details;

others, however, were somewhat vague with little more than generic references, and in answers about China sometimes incorrect details were given. References to migration policies were also acceptable and a minority of candidates included such ideas in answers about countries such as Australia and Canada, though most tended to be simplistic.

Question 2

(a) (i) Candidates met with varied success in writing their definition with many finding it difficult to express. A common error was to refer to an urban area as being 'more developed' or defining the CBD alone rather than an urban area in general.

(ii) Better answers used the evidence in Fig. 3 well, scoring both marks, whilst common errors were to focus on roads and/or not refer to both the inner city and the outer suburbs.

(iii) This was a good discriminator. Weaker candidates did not use the evidence in Fig. 3 to guide their answers, whilst more perceptive answers usually referred to residential areas, low cost land and accessibility. Some candidates did not seem to appreciate that the reason for location would be from the shop owner's perspective, rather than that of the customer.

(iv) Whilst relevant answers usually concentrated on the large area, parking facilities and occasionally offices, hi-tech industry or specific services, many candidates wrongly focused on 'location' rather than 'characteristics'.

(b) (i) Those candidates who were familiar with the terms 'order', 'sphere of influence' and 'frequency' scored well. Overall, however, this question was not well answered. Many candidates did not have the knowledge to answer the question and others concentrated on differences within the row of shops rather than the row of shops as a whole.

(ii) This was a good discriminator. Many different types of shop were suggested, though occasionally candidates did not identify a type of shop or chose one which was already there. Better answers used the photograph and were guided by the large size of the premises, windows for display, complementary shops, and the large number of potential customers to make an appropriate suggestion. Answers which used terminology such as 'sphere of influence', 'threshold population' and 'convenience goods' were the most impressive, whilst the weakest ones suggested uses which were more appropriate for a premises in a large CBD rather than a small row of shops in the outer suburbs. Some candidates gave a good suggestion for a shop, but then discussed how it would benefit the consumer rather than the shop owner, whilst others wrote about general locational factors rather than considering the actual unit available.

(c) The best case studies tended to focus on traffic congestion and air pollution, in particular ones using examples well known to the candidates. Although case studies were from many countries, New York and Harare were the most common. Many weaker candidates identified problems in simple terms, but did not develop either the problem or why it occurred in what were generic responses gaining Level 1 marks. Some answers drifted into urban problems in general, including squatter settlements, rather than concentrating on problems in the CBD.

Question 3

(a) (i) Wording used varied, with 'edge of plates' and 'where two plates meet' being the most common; however, most candidates were able to convey the correct idea. Common errors were to refer to 'the edge of continents' or 'where volcanoes occur'.

(ii) Many candidates drew two correct arrows showing that they were familiar with the type of plate movement at their chosen boundary.

(iii) If candidates knew the direction of plate movement, they usually gained credit for referring to the gap or magma rising. A significant proportion mixed up the direction of movement and wrote about plates converging rather than diverging.

(iv) Similarly some candidates wrote about divergence here. Many of the correct responses, however, included impressive details about subduction, destruction of crust and build-up of pressure.

(b) (i) Most candidates used Fig. 6 effectively to suggest appropriate effects.

(ii) This was another good discriminator with most candidates making at least one relevant point, whilst others included, and in some cases developed, a range of appropriate ideas, such as building strength, earthquake-proofing and preparation/education about what to do in an earthquake. Two common errors were reference to prediction and population density.

(c) The most popular areas chosen were Kobe and Haiti. Whilst Haiti is a country, it was deemed acceptable as Haiti is small; 'Japan' was not precise enough as an alternative to 'Kobe'. Similarly Afghanistan, New Zealand and Turkey needed to be more precise in terms of the part of the country where the earthquake occurred.

Having chosen an appropriate example, some wrote fluently and in detail about the causes of the specific earthquake they had selected but many wrote simple accounts in general terms at Level 1. Many candidates wrote about the effects of their chosen earthquake rather than the cause as required, thereby gaining no marks.

Question 4

(a) (i) Nearly all candidates identified Paraguay correctly.

(ii) Most candidates were able to score at least one mark by referring to the location on or near the Equator or between two relevant lines of latitude. Common errors were for candidates just to refer to a specific latitude, use inappropriate descriptions like 'above' and 'below' or totally ignore the lines of latitude.

(iii) Generally this question was well answered. If candidates referred to each feature as 'high' they scored three marks. Some answers were overcomplicated by unnecessary statistics, for example, using them to suggest that there was great variation in temperature and humidity when there was little range of temperature or humidity there.

(iv) Whilst there were a small number of excellent responses referring to the position near the Equator and the consequent processes resulting in large amounts of heat and rainfall all year round, many candidates wrote about the properties of the rainforest vegetation rather than the climate.

(b) (i) Descriptions varied in quality. Some candidates wrote what they had learned about typical rainforest vegetation rather than what they saw in the photograph, whilst others strayed into describing adaptations.

(ii) This was a good discriminator. Weaker candidates did not focus on the tropical rainforest and wrote in general terms about plants needing water and heat to grow, or suggested the problems of climate for growth, whilst other candidates made excellent references to the ways in which the vegetation of the rainforest is determined by specific climatic features. Answers most commonly gained credit for explanations of the dense vegetation and the 'evergreen' nature, along with references to features such as drip-tip leaves and tall trees. Many candidates referred to buttress roots without relating this to the climate.

(c) There were some excellent explanations of deforestation which suggested a variety of reasons, with stronger candidates developing their ideas, typically by reference to economic benefits, whilst weaker candidates simply suggested undeveloped ideas listing the use of the wood or the deforested land at Level 1. Only a small number gave place-specific references, usually about Borneo or Amazonia.

Question 5

(a) (i) There was a varied level of response. Many candidates identified 'commercial' but were incorrect in their second characteristic or only selected one word.

(ii) Whilst there were some accurate responses, many candidates did not know what intensive farming is, a common misconception being that it involves a large area of land.

(iii) Whilst most candidates were able to score three marks for identifying three appropriate processes, others mixed up inputs and processes, whilst some went beyond processes which occur on the farm, referring, for example, to transporting or selling produce.

(b) (i) This was another good discriminator. Some candidates used compass directions well but others gave weak descriptions and/or used phrases such as 'on the edge', 'at the bottom' and 'up at the top'.

(ii) This question required candidates to use the information provided to suggest reasons for the variation in land use in Bosnia-Herzegovina; however, many candidates gave generic responses. Those candidates who did recognise the link between land use and relief and/or water supplies and related it to information in Figs. 8A and 8B were able to score marks, but few developed their ideas in order to make explanatory points.

(iii) The term 'political factors' was not well understood overall. Where marks were scored, it was usually for reference to the impact of conflicts and the government acquiring farmland for other purposes. Few candidates had any real knowledge of the impact of government policies such as subsidies and quotas.

(c) For many candidates who chose this question, this was their highest scoring section though relatively few included relevant place-specific detail. Whilst many candidates named a whole country rather than an area, many candidates developed their ideas well, particularly about the effects of drought on farming, with stronger candidates writing about its effects on both crops and animals. Other good references that were included were to flooding and soil erosion. Some weaker candidates focused too much on why areas have low productivity normally, such as low rainfall, but this did not address the issue of food shortage. A few responses ignored natural factors and included others such as the impact of wars and conflicts, whilst some described the consequences of the food shortage and/or government solutions rather than writing about why there are food shortages as required.

Question 6

(a) (i) Many candidates did not define both 'atmosphere' and 'pollution' so did not gain credit. As a general rule, they should be encouraged to re-word all italicised words when giving a definition.

(ii) Many candidates scored two marks for ideas about fumes from machinery and methane from grazing animals, though others made vague references to 'cows' and 'tractors' and 'chemicals' which needed to be elaborated.

(iii) This was a good discriminator. Good candidates described the process in detail and included reference to specific greenhouse gases and their effects. Many candidates incorrectly referred to the ozone layer and confused global warming and ozone depletion.

(iv) There were many good answers with a range of valid ideas which showed an excellent understanding of this issue. Weaker candidates gave extreme answers such as 'people will be wiped out' and suggested that the 'Poles will melt' or vaguely referred to it being 'too hot' or 'floods occurring'.

(b) (i) Most candidates correctly identified three sources of pollution, though two common errors were making reference to 'industrial infrastructure' and including information about oil and gas in more than one idea.

(ii) This was another good discriminator. Where candidates used the information in Fig. 10, they tended to score well. There were good explanations about the effects on fish and subsequently on people's health or income.

(c) Many different case studies and ideas were used at a variety of scales, the most common being about stopping poaching, creating conservation areas and preventing air or water pollution. Better candidates developed ideas about one area, whilst weaker answers listed simple or generic ideas at Level 1 without any real detail or precision. Some candidates focused on the urban environment rather than the natural environment, thus limiting potential credit, whilst the best answers typically identified a national park or game reserve, such as the Kruger or Masai Mara, and focused on ideas relating to protecting wildlife and vegetation.

GEOGRAPHY

Paper 2217/13

Paper 13

Key Messages:

In order for candidates to perform well on this paper they needed to be able to:

- ensure that the examination rubric is followed correctly, answering 3 questions only, one question from each of the three syllabus themes *(i.e.* ***Question 1 or 2****,* ***Question 3 or 4****, and* ***Question 5 or 6****).*
- answer all parts of the chosen questions as questions requiring the completion of a map or graph are omitted by some candidates.
- read the question carefully – it is important to spend time doing this. If it helps underline command words and words which indicate the context of the question.
- know the meaning of and respond correctly to command words used in questions. In particular know the difference between 'describe' and 'explain'.
- identify the correct focus specified in the question stem – e.g. causes or impacts, natural or human environment.
- learn the meanings of key words in order to be able to define and accurately use geographical terminology. When defining words or phrases candidates should not simply repeat a word or words as part of their definition.
- describe a distribution from a map and name features to support their answer.
- describe the location of a feature or place, supporting this by giving distances and directions from named places.
- use the mark allocations and answer space provided in the question and answer booklet as a guide to the length of answer required and the number of points to be made. Some candidates write over long answers to questions worth few marks at the expense of including detail in those requiring extended writing.
- write as clearly and precisely as possible avoiding vague, general statements.
- write developed ideas wherever possible where extended writing is required in the final two parts of each question, ensuring that ideas are developed with the correct focus.
- perform basic skills such as interpreting graphs, photographs and maps of various types, using accurate statistics or referring to specific features as appropriate to support ideas.
- approach questions which ask for comparison by writing comparative statements rather than writing discrete comments about each item being compared.
- avoid direct lifts from resource materials when a question asks for interpretation of ideas.
- have a range of case studies so that appropriate ones can be chosen for the topics tested and ensure they are aware of the scale of the question – e.g. city or country or area.
- include place specific information in case studies, whilst avoiding writing a long introduction to the question with place detail at the expense of answering the question.
- when using the extra space at the back of the question and answer booklet make it clear that the answer is continued and indicate the number of the question accurately.

General Comments

The examination was considered appropriate for the age and ability range of candidates and it differentiated effectively between candidates of all ability levels. As always the most able and well prepared candidates performed very well across the paper and some excellent answers were seen. Most candidates were able to make a genuine attempt at their chosen questions, however weaker candidates found it difficult to interpret tasks and write effective responses to some or all questions.

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Some candidates disregarded the rubric by answering four questions, however it was rare to encounter papers where all questions had been attempted. Usually if all questions had been answered they were all very weak however some stronger candidates crossed out several lengthy answers, wasting time which could have been spent working on their chosen answers.

The handwriting of some candidates was difficult to read. Whilst it is accepted that candidates are writing under time pressure it has to be noted that few, if any, candidates actually seemed to be short of time. It is vitally important that all answers are legible, as answers which cannot be read cannot earn marks.

Question 1 was the most popular and **Question 3** was the least popular. There were many good attempts at all the case study questions, the final part of each question particularly problems of an ageing population, formation of waterfalls and impacts of a drought. High quality answers in these case studies were characterised by a range of developed ideas and occasionally some place detail. Some weaker responses tended to be generic developments of ideas with little place detail to support them whilst others were characterised by the use of simple statements. In some cases the detail provided was largely irrelevant to the question being asked, including long and unnecessary introductions, some of which occupied almost all the answer space.

Case studies require place specific place information to allow access to the highest level. This requirement can vary between questions – a country (**Question 1**) or an urban area for example (**Question 2**). Some candidates do not carefully consider their choice, limiting their mark by inappropriate choices, for example choosing a country rather than an urban area or vice versa. Where an 'area' is required (**Question 2**, **4** and **6**) choosing a country usually tends to be unacceptable as this is likely to be too large a scale although **question 4** in this case asked for a country or area.

The following comments on individual questions will focus upon candidates' strengths and weaknesses and are intended to help Centres better prepare their candidates for future examinations.

Comments on Specific Questions

Question 1

(a) (i) Most candidates understood 'growth of less than 0%' and answered correctly. However, some stated incorrect ideas such as low or slow growth or more dying than being born.

(ii) Quite well answered overall, many candidates referring to a specific country or North Asia/Eastern Europe the vast majority scored at least 1 mark with many scoring 2.

(iii) Most candidates gained credited either for greater percentage in Africa or for more variation in Africa, with supporting data.

(iv) Most candidates scored well here and displayed a good understanding of reasons for a combination of lowering of death rates or reasons for high birth rates. Many scored full marks.

(b) (i) Many candidates interpreted the graph well and provided good comparisons without using statistics as instructed.

(ii) This question differentiated well with some excellent understanding shown of pro and anti-natalist policies by better candidates. References to anti-natalist policies were generally more impressive than pro-natalist with good details on China's one child policy predominating. Weaker answers on pro-natalist contained simplistic statements such as 'pay them to have children', 'ban contraceptives' etc rather than reflecting on any real or plausible policies. Some better Singapore answers were seen here too. However, an example was not needed here, just the policies.

(c) There were many impressive answers seen here with many candidates getting into and beyond Level 2, usually through developing their ideas of dependency and cost to the taxpayer. Whilst weaker candidates made little attempt to develop simplistic ideas, many others did so, and linked ideas together well. Relatively few got into Level 3 however as there was little place specific detail included.

Question 2

(a) (i) The vast majority of candidates correctly plotted the information on the scattergraph, though some did misread the scale for population.

(ii) Most candidates scored at least 1 mark and many used evidence to gain full credit.

(iii) Many correct answers were seen here though some appeared to not appreciate that settlement X was very small and many incorrectly ticked 'department store, bookshop and university'.

(iv) Most candidates were able to gain credit here and obviously understood the link between settlement size/accessibility and service provision. The question differentiated well with stronger candidates developing ideas relating to both size and accessibility. Some attempted to use appropriate terminology such as threshold population and sphere of influence which was pleasing to see.

(b) (i) The vast majority of candidates were able to divide the bar correctly and score full marks.

(ii) Many candidates missed the instruction to 'explain why' and simply described the differences which the question did not ask for so therefore they didn't gain any marks. Many of those who had read the question properly produced some very perceptive responses, especially relating to frequency of purchase and availability of services of different types.

(c) Whilst some excellent responses were seen there were too many general descriptions of transport provision, especially public transport, and such answers were not high scoring. The question asked for a description and explanation of 'the pattern of transport routes' and this was only addressed effectively by a relatively small number of candidates.

Question 3

(a) (i) Mostly correct though some candidates selected 'levee' rather than 'flood plain' and some chose one feature only.

(ii) Most candidates correctly identified 'X' and justified their choice by reference to speed of flow.

(iii) Flooding and marshy land were common correct answers though few scored full marks. References to erosion, particularly the land being cut off were fairly common though inappropriate or too simplistic for credit. There were a few impressive references to difficulties of access and the likelihood of specific diseases such as malaria, which may be present in such an environment.

(iv) Many candidates knew the processes involved in oxbow lake formation and scored well though others, especially the very weak candidates, did not, either giving brief simple responses for one mark or showing a complete misunderstanding and gaining no marks at all.

(b) (i) The vast majority of candidates scored well on this, mistakes made tended to be putting inappropriate land uses, especially areas of low cost housing, in zones A and/or B.

(ii) Generally this was high scoring, though it did differentiate well in conjunction with the previous part as weaker candidates lost marks by trying to justify inappropriate choices of land use, typically low cost housing in flood prone areas. Also the location of factories in flood prone areas was justified by many by referring to disposal of waste in the river, which whilst seeming logical was not an appropriate answer as candidates had been asked to pick the most likely land use in part **(i)**. In an MEDC such as the Netherlands (see stem) factories would not be developed so close to the river, nor would environmental legislation be likely to allow the disposal of materials in the river. Perceptive candidates gave some excellent reasons for the location of nature reserves in such areas, explaining not only by reference to the lack of damage caused by flooding but also the advantages of regular floods in such an area (e.g. deposition of silt, water availability, creation of distinctive wetland environments etc.).

(c) This question differentiated well. There were some excellent responses, supported by fully labelled diagrams but at the opposite end of the spectrum some simplistic answers were seen showing little real understanding of the processes involved. The whole range of marks were seen here.

Question 4

(a) (i) Probably around have of the candidates choosing this question answered correctly. Some definitions showed confusion between weathering and erosion and many did not state 'in situ'.

(ii) Generally this question was well answered with most answers focusing on the high diurnal range of temperature. Some candidates also explained why freeze thaw and/or biological weathering were unlikely which was another acceptable approach to answering the question.

(iii) The vast majority of candidates responded well to this question. The process was well understood and marks were high.

(iv) Again this question was well answered and was high scoring with candidates showing excellent knowledge of the process and all mark scheme ideas were seen.

(b) (i) Generally candidates interpreted the photograph quite well and most could identify features such as the steep slope/cliff, scree, bare rock and lack of vegetation. Features such as the crack/joint were commented on which was acceptable but others listed any limestone features which were not evident in the photograph such as clints, grykes and caves and as such these were not credited.

(ii) This question differentiated well as many varied answers were seen. Some gained full marks from a full and detailed understanding of the chemical processes involved, others lacking understanding or focusing too narrowly on 'acid rain' gained few or no marks at all. All mark scheme ideas were seen and some candidates developed their answers well.

(c) Some very good answers were seen here. Good Level 2 answers developed the points often by reference to the impacts of lack of food and water. Simple Level 1 answers tended to be lists of impacts without any attempt to develop or link ideas. Level 3 answers were not high in number but some were seen from candidates who were able to include place specific details such as named parts of the country or area selected.

Question 5

(a) (i) The vast majority of candidates answered correctly but some errors were seen as not all candidates selected the correct photos.

(ii) Many candidates scored one or both marks here. Most were able to pick out ideas such as work and many included another appropriate mark scheme idea.

(iii) This question was also generally well answered, providing candidates realised they needed to write about people and not the natural environment. Inevitably some candidates incorrectly referred to the natural environment and thus did not gain any marks.

(iv) Again well answered on the whole, the issue here being the need to refer to the natural environment rather than people which some candidates did not do. Vague references (e.g. noise and litter) were not credited unless they specified the impact on the natural environment and 'visual impact' was not considered appropriate as this would be on people. Some candidates referred to global warming and acid rain when developing the idea of air pollution, which was acceptable as the question did not specify the 'local' natural environment.

(b) (i) Most candidates compared the two pie charts well, either giving a descriptive answer or using statistics. Candidates should however be encouraged to compare sectors directly in this type of question (e.g. 'more primary percentage in Nepal') rather than producing two discrete descriptions.

(ii) Varied responses were seen here and the question differentiated well. Ideas of skills, technology and raw material availability were the most frequent responses though many weaker candidates just wrote about one or two ideas and didn't develop them.

(c) Despite the use of many somewhat dated examples, in some cases going back to the Industrial Revolution, many answers did reveal an understanding of how an employment structure is likely to change as a country develops. Level 1 descriptions with simple ideas were common though the explanation was more developed from more able candidates thus allowing progression into higher levels. A common error was to neglect the 'change' element which the question required. Descriptions of the current employment structure alone were inappropriate as they did not answer the question.

Question 6

(a) (i) Mostly correct definitions were seen here though a number of weak candidates simply reworded with 'the cost of labour' which was insufficient to gain credit.

(ii) The vast majority of candidates identified the correct order and gained both marks.

(iii) This question was generally well answered by reference to whether jobs were labour intensive or could be easily mechanised. There were also many appropriate mentions of skills and their impact on wage costs. Many candidates scored at least 2 marks with many gaining full marks.

(iv) Whilst some good answers to this were seen generally responses were disappointing and somewhat vague in comparison to when this has been set as a case study question. Some candidates missed the 'high tech' focus and wrote generally about industrial location whilst others focused in detail about 'pleasant environment for workers' at the expense of explaining which other (perhaps more significant) factors are likely to attract high tech industries.

(b) (i) Most candidates knew the difference between inputs, processes and outputs though some struggled to define inputs and processes particularly whilst others gave examples (e.g. raw materials) rather than definitions.

(ii) Most candidates were able to construct simple systems diagrams but some lost marks by choosing an inappropriate example, such as a primary industry like farming, rather than a manufacturing or processing industry. The question differentiated well.

(c) The focus of the question was 'inputs' to the farming system rather than a general description of the system with its processes and outputs. The most successful candidates identified a precise farming system (e.g. rice farming in the Ganges Valley or wheat growing in the Canadian Prairies) enabling them to describe the inputs and explain these requirements. Weak answers tended to be Level 1 lists linked to a vague example (e.g. commercial farming in New Zealand) with little or no explanation and much irrelevant detail about processes.

GEOGRAPHY

Paper 2217/22
Investigation and Skills

Key Messages

- Practical skills questions need to be completed precisely.
- Given data should be interpreted to show understanding
- In ***Section B***, careful analysis should be backed up with evidence
- When answering hypothesis questions that ask the candidate to agree or not, the candidate should always make their decision after weighing up the evidence then state it at the start of their answer and then provide any supporting evidence. This will usually be Yes, No or Partially/To some extent.
- When giving figures in an answer always give the units if they are not stated.
- Attempt all completion tasks on graphs, tables or diagrams – not all the answers are on lines and in writing. Many candidates are missing out on marks this way; in this session this was particularly the case with Question 8.
- Candidates should take care when adding plots to graphs and use the key provided. Also when joining lines between plots as marks are often awarded for this in addition to the plots.
- Make sure any shading of graphs is clear.
- Use the resources that a question refers to for evidence or data e.g. Table 4, Fig. 10.

General comments

This paper was well balanced with both straightforward questions, easily answered from the information given, and more difficult ones requiring the candidates to draw on their geographical knowledge. This paper was comparable with previous sessions, with **Question 1(a)**, **Question 2(a)**, **Question 3(a)** and **Question 6** proving to be easier while **Question 4**, **Question 7(b)(iv)** and **Question 8(b)(i)** were the most challenging. In ***Section B***, the two questions were relatively equal in popularity. Some candidates attempted at least parts of both questions, as they were clearly unsure as to their best choice. However, this can result in two half-complete questions and thus a lower overall mark for ***Section B***. Candidates should be reminded to make a choice and then make an attempt at every part of their chosen question.

Most points for teachers to consider, when preparing candidates for future Paper 22 questions, relate to misunderstanding or ignoring command words and giving plenty of practice using past papers to ensure they read the instructions carefully and complete graphs and other practical activities. Particular questions where candidates do not score well often relate to them not taking time to thoroughly read and understand the resources referred to. This can mean that some candidates do not obtain a mark in line with their geographical ability.

Comments on specific questions

Section A

Question 1

(a) The 1:50 000 map was of Cross Keys, Jamaica. The first task was to locate grid square 9638 and identify six services found there. There were only six different services in this square: church, police station, library, post office, health centre and school. Each mark required two correct services to be listed. Most candidates had no trouble with this and scored 3 marks. A few missed one out so scored only 2. Some listed six but repeated church, probably because there were two of these located in this square. These candidates also only scored 2.

A different grid square, 9835, was used for **part (ii)**. Candidates were asked to identify three types of land use here. Woodland and trees and scrub were clearly identifiable, as were the linear features of motorable track / footpath and cut line. There was also a sizeable area of pasture, but this was difficult to match up with the key, so sugar cane plantation was allowed as an alternative.

The grid square also took in the edge of the mixed or scattered cultivation. Again candidates scored well on this and many had at least two correct answers.

(b) Having already located Cross Keys in **part (a)**, candidates now had to find the trigonometrical station at Rose Hill and give the compass direction from there back to the crossroads at Cross Keys. This was south-east. The straight line distance between these two points (**part (ii)**) was between 4400 m and 4600 m. Many candidates had a correct direction, but the distance proved to be more difficult. It was common to see answers with the right digits, but out by a factor of 10 or 100. Candidates were maybe trying to use the scale of 1 : 50 000 to calculate the distance. They would perhaps find it easier to mark the two points on a straight edge and then just hold this against the scale line printed on the map, though they would still need to apply the conversion factor to change kilometres into metres.

For the six figure grid reference of the trigonometrical station, there were several possibilities to allow for the fact that the symbol straddled the grid line. 939421, 939422, 940421 and 940422 were all acceptable answers. Candidates seemed to find this particular grid reference quite difficult. There were some correct answers but also a wide variety of errors.

(c) The cross section, given in Fig. 1, required four labels and the road had already been located, both as an example of how to show the other features, and also to help with the positioning of the building (B), which was between the road and the sea. This could be located without measuring, but to position the other features accurately, it was necessary to measure their position in relation to the start of the cross section. The pasture (P) was between 85 mm and 91 mm from the left. The class B road (R) was at 31 mm to 33 mm from the left. The edge of the mixed and scattered cultivation (C) was between 80 mm and 83 mm from the left. Many candidates had successfully located the building, but were not always sufficiently accurate with the other features. Some appeared to have tried to deduce the location based on the height given on the vertical axis, but this was likely to be inaccurate given the shallow gradient of much of the section.

(d) Throughout the map extract, the coastline is closely followed by a class C road and candidates were asked to suggest reasons for this route. Possibilities included that it kept to the lower land, thus avoiding the hills, but also avoided the areas of mangrove and marsh or swamp. It gave access to the sea and also the buildings located close to the coast, whilst also being a scenic route that could potentially be used by tourists. Most candidates had some sensible ideas here, though a few put a strong emphasis on tourism, as they assumed that all of the buildings were hotels, which has a similar symbol, located adjacently in the key. A few wrote about the wrong road, having picked one further inland.

(e) Candidates were then asked to look at distribution of settlement across the map extract as a whole and suggest reasons for this distribution. It was not necessary to describe the distribution, so there was no mark for the term “linear”, but many commented that the settlement was found along the roads and this was a valid point. Some pointed out the presence of water supply and gentle slopes and the location within the areas of mixed and scattered cultivation. Others noted that the settlement avoided the highest land and also the woodland, trees and scrub and pasture. There were a few good answers but many candidates used at least some of the answer space to write about the settlement patterns and the services.

Question 2

(a) Fig. 2 showed energy use per person in 14 countries and candidates were asked to complete Fig. 2 by plotting the data for Finland. Most did this correctly, though, as always, there were some who missed the question as they did not see lines on which to write an answer.

Saudi Arabia had the third highest energy use per person, of the countries given, and candidates were asked to suggest why an MEDC with a hot, dry environment, might have a high energy consumption. Many candidates focused on the word “hot” and discussed the need for air conditioning. A second mark relating to temperature could be obtained for commenting that refrigerators would need to work harder and thus would consume more power. Other candidates took their second mark from reference to the dry environment and thus the need to transport water, pump water for irrigation or even desalinate the water supply. Another approach was to focus on the MEDC status, indicating a high use of energy to maintain a high standard of living and also use of energy in industrial processing. Thus there were plenty of valid points here and many candidates had easily enough for the two marks. However, some less successful answers misunderstood the

question and assumed that energy consumption per person was related to how much food was eaten.

(b) Fig. 3 consisted of three graphs showing residential, commercial and industrial electricity use, each over a four year period. Candidates were asked which graph showed the smallest variation and almost all correctly identified this as industrial.

Candidates then had to describe the pattern shown on the commercial graph. This showed a large summer peak, mid-year, with a smaller peak amid the winter fluctuations at the beginning/end of the year. Many pointed out the obvious summer peak but simply stated that it decreased again rather than giving any additional information for the rest of the year. Another way to gain the second mark was to quote appropriate data but many who did this made mistakes with the units (billion kilowatt hours) as a result of trying to abbreviate them.

Part (iii) referred to the residential graph, and this time candidates had to suggest reasons for the variations. It was clear from this that a number of candidates had misinterpreted the graphs and taken the cyclic variation to be daily rather than recurring each year. Many wrote about the need for different appliances at different times of the day and why daily peaks might occur. Some discussed variation from one house to another. Relatively few suggested a summer peak could be the result of air conditioning, while a winter peak might be the result of use of heating, with lower electricity use, in between these times, coinciding with periods of moderate temperature.

Question 3

(a) Fig. 4 was a climate graph for Tombouctou, in Africa. Candidates had to complete this by plotting rainfall and temperature data for June, and most did this successfully. The most common error was an inaccurate positioning of the temperature so that it did not align with the centre of the rainfall bar.

Candidates then had to describe the climate in January. This simply involved selecting and reading the information from the graph; so an average temperature of 28°C and no rainfall, or “dry”. Most candidates scored their two marks in this way, though there was also a mark for pointing out that it was the coolest part of the year and some had noted this too. The most common error here was describing the climate throughout the year rather than focussing on January.

The annual temperature range for Tombouctou was 12°C, given from 40°C minus 28°C. Most candidates had a correct answer here, though a few had put 11°C, as they had misread the scale on the y axis, and others had added the data and calculated the average.

The graph showed that the temperature decreased during the rainy season and candidates were asked to suggest a reason for this. Some pointed out that there would be increased cloud cover and consequently less sunshine and others mentioned that heat would be used to evaporate the water. The most common incorrect answer was that the rain would result in cold winds blowing over the area.

(b) Fig. 5 was a world map showing the distribution of tropical deserts and candidates were asked to describe this distribution. It was not sufficient to give the continent, without locating the area of desert within the continent in some way, e.g. “on the west side of South America”. A more general approach was to mention that they were located at the Tropics of Cancer and Capricorn and also found on the western side of the main land masses.

Question 4

(a) This question required a piece of extended writing to describe the features of Photograph A. Candidates were given some guidance by the side headings of vegetation and landforms, without which many would probably not have commented on the relatively insignificant vegetation. However, marks were available for noting the grass, the algae or seaweed at the water line and the discontinuous, patchy nature of much of the vegetation. Most candidates managed 1 vegetation mark, usually for grass. For landforms there was much more scope, with cave, arch, cliff, headland, notch and beach all being evident, and further marks available for commenting on the colour of the rock and also its cracked and layered appearance. Most of the candidates got most of their marks for landforms, though some went into a lot of unnecessary detail about formation and others were repetitive in what they wrote, both of which filled up space without achieving marks.

Question 5

(a) Fig. 6 showed an urban area and candidates were asked the meaning of CBD which was used in the key. Most put "Central" and "Business" but "District" was often replaced with "Distribution" or "Development".

(b) A village was marked, adjacent to the road, to the east of the urban area. Candidates were asked to suggest why people worked in the CBD and not the village. Many suggested that there would be more jobs in the CBD, and that these would have higher salaries, or that there would be no job opportunities in the village. Some answers simply said that the CBD was where the offices were found, which was not enough for the mark.

Part (b)(ii) then went on to ask why people lived in the village and not the CBD. Some wrote about the relative land values, causing housing to be cheaper in the village, and also the lack of space in the CBD with no land available to build houses. Many noted the congestion and noise of the CBD and thus the more pleasant living environment of the village. Some suggested family ties to the village. Candidates generally had some good ideas and usually expressed them well.

(c) Candidates then had to consider the impact of a new shopping area. This was shown on Fig. 6 and candidates were also told that the road around the urban area to the east was a by-pass. Thus a shop owner moving to the new location would benefit from passing trade on the by-pass and would be able to receive deliveries and ship products more efficiently due to the improved road access. There would also be the benefit of cheaper land values and thus the potential to afford a larger shop. Some candidates made some of these points, but many focused on the proximity of the village as a source of customers, which they thought would result in a net increase in trade. This was deemed to be unlikely.

Candidates found it easier to see the advantages for the people of the village, pointing out that shopping opportunities and also job opportunities would now be closer to their homes.

Someone from the village, still working in the CBD, would now have to travel past the new shopping area in order to get to work. Thus they would be likely to experience traffic congestion, at the junction, which could cause delays and force them into allowing more travelling time. They were also likely to experience decline in trade at their CBD-based shop. Many noted the congested route, but some focused on the fact that the person would be missing out on the shopping opportunities at the new shopping area or that they would have to do extra travelling in order to take advantage of them.

Question 6

(a) This question was about immigration in to Australia, and candidates were first asked "What is an immigrant?" Some candidates defined a migrant, but left the directional aspect unclear.

(b) Candidates then had to complete Fig. 7. Many did this correctly, though some were a little inaccurate, while a few had plotted on top of the plot for Europe, at the left end of the graph.

61% of immigrants came from Europe in 1991. Most candidates had a correct answer for this.

(c) ***Section A*** finished with a straightforward description of the changes between 1991 and 2006. There was a percentage decrease for Europe and the Americas and a percentage increase for the other areas: Africa, Asia and Australasia. Most candidates noted the big changes in Europe and Asia and many pointed out at least one of the others as well.

Section B

Question 7

This required candidates to know about, or have some experience of, carrying out fieldwork involving the measurement of temperature in a small area. This is a popular activity that all Schools could organise on their grounds. This question was quite well done with most candidates attempting all sub-sections. The areas of concern were the lack of use of average temperatures to justify hypothesis decisions in **(b)(iv)** and **(c)(iii)**

and the lack of understanding of the use of a hygrometer. **Question 7(b)(iii)** and **Question 7(c)(ii)** had quite high *No Response*.

(a) (i) Candidates showed a pleasing knowledge of the advantages of a digital thermometer. The most popular answers were that it was faster, easier to read, more accurate and portable. It was not accepted that it was cheaper or that an advantage was that different units such as °C and °F could be provided as this syllabus only requires candidates to use the Centigrade unit. Max-min thermometers also usually show °C and °F.

(ii) Many responses just suggested taking more readings or using more groups to take more readings or taking readings at the same time the next day! The best answers either suggested that a candidate took more readings and then calculated the average or the reading was checked using another or a different thermometer.

(b) (i) Some candidates mistakenly gave the highest *average* temperature here of 35.1°C when the question asked for the highest temperature on the Guyot building which was 35.6°C.

(ii) Most candidates chose 4 metres as the correct answer; others misunderstood the word 'variation' in the question and gave figures including temperature figures. A small number did not attempt the question.

(iii) The vast majority of candidates did well and gained full credit for two accurate plots; the 15.30 plot at 35.2 was less well done than the 36 plot. A significant minority of candidates failed to attempt the graph completion and thus could not gain access to two relatively easy marks.

(iv) Almost all candidates correctly chose the Eno building as being better for supporting the hypothesis that temperatures will be highest next to buildings. Many then just chose the highest temperatures for the Eno building and used those to justify the choice however, to justify the choice the data needed comparing with the Guyot building which was not chosen. Candidates needed to refer to the average temperature rather than pick out individual ones and also needed to choose the data closest to the building i.e. at 0.5 metres. An answer that stated the average temperature at 0.5 metres was 31.2°C next to the Eno building which was higher than 29.9°C at the Guyot building gained full credit.

(v) Good responses were seen to this question with most answers referring to buildings absorbing and emitting the sun's heat or the additional heat that may be radiated out from internal heating systems.

(vi) There was a large variation of choices here with all of them being chosen by candidates; the correct answer was 8 metres which the majority circled.

(c) (i) Most candidates calculated the average temperature as 34.2°C correctly rounding down to 1 decimal point from the exact calculation of 34.24°C to match the data in the table. The latter figure was credited though as was its correct plotting in the next question. It should be noted that, if the other data in a table is rounded, then candidates should also write their answer in a similar format.

(ii) Given that almost all candidates attempted the calculation in the previous question, it was disappointing to see a significant number fail to attempt the plotting of their calculation on the graph. Most candidates could plot 34.2 or 34.24 accurately; a few misread the vertical scale so plotted the 0.2 part two squares up from the 32°C line instead of one. Some used a cross to plot instead of a circle which was not credited given the different symbols were keyed for different buildings.

(iii) As with **Question 7 (b) (iv)**, candidates often stated individual temperatures to support the hypothesis; average data is what was required as separate individual data does not give an overall picture of how the evidence supports the statement as being true. The best answers recognised that average temperatures were always higher at every distance from the Eno building and also at every time apart from 6.30 when they were the same. Using the correct average figures to back their observations up produced correct answers gaining full credit. This question proved to be the most difficult on **Question 7**; the lessons to be learnt are to make sure candidates understand the significance of using average figures rather than individual sites to back up hypothesis decisions.

(iv) This was well answered; most candidates used the key to spot that the Guyot building was in shade at 9.30 whereas the Eno building was facing the sun hence accounting for the temperature differences. Candidates who just referred to 'one building' without specifying which were not credited.

(v) The question asked for one other factor that could cause temperature variation in a small area so any factor causing shade or aspect could not be credited as that had been covered earlier. Simple references to humidity, the presence of water, vegetation (though not if referring to shade) and the influence of wind were all seen and credited.

(vi) This was not well answered; with many candidates suggested measuring other buildings, measuring at different seasons, using two thermometers or just repeating the investigation and calculating averages. The question wanted two ways to make this investigation more reliable which could be achieved by having shorter time intervals or distances or checking readings with a partner.

(d) (i) A significant number of responses did not choose the correct definition which was the second one listed; most errors came with choosing the first definition.

(ii) Candidates found this question difficult. The syllabus refers to several traditional weather instruments and candidates should understand how they all work including, where possible, experiencing some practice in using them even if they are not going to carry out formal fieldwork for assessment. The use of the hygrometer was not well understood. Most candidates knew the dry-bulb thermometer measured air temperature but the working of the wet-bulb thermometer and what it actually measures was poorly understood even with a diagram to help. Some candidates confused the purpose with that of a max-min thermometer and referred to the wet-bulb thermometer measuring water temperatures and also referred to mercury in one and alcohol in the other. Some candidates did not specify which thermometer they were writing about using expressions such as 'one thermometer…' and 'the other thermometer…'

(iii) This was quite well done with most candidates working out a difference of 9 degrees and then using the relative humidity tables to calculate an RH of 36%. A few used the 15C figure in the tables.

Question 8

This required candidates to have knowledge or experience of carrying out fieldwork into visitors to beaches. This topic is usually more accessible than physical topics yet statistics showed that candidates found some sub-sections hard and the omission rates on the latter parts of **Question 8** were higher than **Question 7**. Areas of concern included the confusion between a visitor count which does not involve asking questions in **(a)(ii)**, how to overcome the shortcomings of the bi-polar survey in **(b)(i)**, using data in **(b)(iv)** and generating relevant geographical questions to add to the questionnaire in **(d)**. **Question 8 (b)(ii)**, **Question 8 (c)(i)** and the last three sub- sections were those with quite high *No Response*.

(a) (i) A significant number of candidates did not attempt this question. While many candidates could show that they knew how to carry out a tally of 27 people, many did not realise that the recording sheet also required them to circle the time, day and month given in the same style as the location which was illustrated. Some wrote out these details instead. The majority that read the instructions carefully circled the three correct words and drew a tally of 27. It should be noted that geographical convention requires that tallies are drawn in groups of 5; some tallies were in groups of 4 or in 27 independent strokes which were not credited.

(ii) This question proved to be the worst answered sub-section on the whole paper. Many regarded it as an independent question and gave answers that had already been decided in **(i)** i.e. they had been given the dates and times for the counts, they were told to use a tally system. Having been told they were carrying out a visitor count yet many responses suggested asking questions of, or interviewing, the visitors and being polite and saying thank you. Others suggested clothing advice or the use of insect repellents; a few suggested using a counter or clicker when they had been told to use a tally system. Those that suggested using a watch, starting and finishing at the correct times, working in pairs to count and staying in the same location for the three counts were credited but few gained full credit here.

(iii) Most candidates realised that Sunday was a non-working day and that Monday was a working day so carrying the visitor count out on different days would lead to some useful comparative results. A few thought both days were holidays so that the candidates would be able to carry out the counts without missing school. Others thought both days were the busiest of the week so they would get good results.

(iv) Almost all candidates recognised that there would be less visitors in January however there was no comparative statement regarding the temperature likely to be colder than in the summer though 'it would be cold' was stated by many. There were few references to tourist seasons and comparing summer with winter. Some thought there would be more tourists due to winter sports.

(v) Almost all candidates that plotted the two bars for 46 and 35 gained both marks however a large number did not attempt the graph completion.

(b) (i) This question proved quite difficult for the majority of candidates. Many explained why there were difficulties instead of answering the question about how they could be overcome. The majority gained credit for suggesting that the survey should be carried out at the same time but less suggested that the candidate scores should be discussed, agreed or averaged as a way to overcome different scores.

(ii) Some candidates miscalculated the total; others missed out the significance of using the + sign in front of the 4 in the total box. A significant minority did not attempt this calculation. It was generally well answered though; candidates must be aware that, if there are – and + signs used in the table, it is important to specify these with other figures even if convention allows positive figures not to need the + sign displaying.

(iii) A large number of candidates did not attempt the completion of this graph yet almost all that did gained full credit. It is important to note that, on this occasion, marks were only for plotting the three points correctly.

(iv) Candidates that used data as required in the question often gained full credit by comparing visitor counts at Badesi and Valledoria e.g. 144 to 129 on Sunday, and the attractiveness of the location by comparing +4 at Valledoria with +2 at Badesi. Many gave qualitative statements about there being more visitors at Valeria which is not using data. A few chose an individual factor of attractiveness instead of using the overall totals.

(c) (i) This response involved using the pie chart and a key to decide which categories matched the 20/17/14 statistics in the table. A signficiant number of canddiates did not attemt this question. Those that could work through the pie charts, key and descriptions mostly gained full credit.

(ii) Most candidates agreed with the hypothesis and correctly compared statistics for two different activities, be it by rank or percentage differences. Some responses only made a general statement about the differences for a fourth mark but overall this was quite well done.

(iii) Most recognised that age/gender information would be useful if linked to different activities or reasons for visiting the different beaches. It was not enough to just say that this would give information about who visited each beach as the question was related to the conclusion in **(ii)** which related to the different reasons for visiting them. A number did not attempt this question.

(iv) Many candidates felt the weakness related to asking for personal information and privacy issues which was surprising as they were only being asked to identify the main reason for their visit from a list on the questionnaire.

(d) This was a very open-ended question with no credit given for a reason if the question was not allowed. Candidates needed to focus on useful geographical questions that were not intrusive e.g. *are you married?*; were not banal e.g. *are you enjoying your visit?;* also they should not ask sensitive questions relating to the country of origin of visitors nor questions they could answer themselves e.g. *how many litter bins are there?* The best questions asked related to the frequency of visits, other reasons for their visit, how visitors knew about the resort, how far they had travelled and by which mode of transport. Some candidates made no attempt to answer; it also proved the second hardest sub-section on **Question 8** regarding marks gained. Candidates needed to think 'geographically' to add to the questionnaire; many gave conversational questions which, while interesting, would not yield many worthwhile answers for later analysis.

GEOGRAPHY

Paper 2217/23
Investigation and Skills

Key Messages

- Practical skills questions need to be completed precisely.
- Given data should be interpreted to show understanding
- In ***Section B***, careful analysis should be backed up with evidence
- When answering hypothesis questions that ask the candidate to agree or not, the candidate should always make their decision after weighing up the evidence then state it at the start of their answer and then provide any supporting evidence. This will usually be Yes, No or Partially/To some extent.
- When giving figures in an answer always give the units if they are not stated.
- Attempt all completion tasks on graphs, tables or diagrams – not all the answers are on lines and in writing. Many candidates are missing out on marks this way; in this session this was particularly the case with **Question 8**.
- Candidates should take care when adding plots to graphs and use the key provided. Also when joining lines between plots as marks are often awarded for this in addition to the plots.
- Make sure any shading of graphs is clear.
- Use the resources that a question refers to for evidence or data e.g. Table 4, Fig. 10.

General comments

This paper was well balanced with both straightforward questions, easily answered from the information given, and more difficult ones requiring the candidates to draw on their geographical knowledge. This paper was comparable with previous sessions, with **Question 1(d)(ii)**, all of **Question 2** and **Question 5(b)(iii)** proving to be easier, while **Question 3(b)(iii)** and **Question 6(c)** required some thought and thus were more challenging. In ***Section B***, **Question 8** was more popular than **Question 7**, with **Question 7(a)(iv)**, **Question 7 (b)(ii)**, **Question 8(a)** and **Question 8(b)(iv)** being the most straightforward parts.

Most points for teachers to consider, when preparing candidates for future Paper 23 questions, relate to misunderstanding or ignoring command words and giving plenty of practice using past papers to ensure they read the instructions carefully and complete graphs and other practical activities. Particular questions where candidates do not score well often relate to them not taking time to thoroughly read and understand the resources referred to. This can mean that some candidates do not obtain a mark in line with their geographical ability.

Comments on specific questions

Section A

Question 1

(a) The 1 : 50 000 map was of Shamva, Zimbabwe, and candidates had to look for “The Range”, where there was an isolated hut. The six figure grid reference of this was given by eastings of 432 or 433 paired with northings of 886 or 887. This took into account the positioning of easting 44, so that candidates could score the mark whether they had measured from easting 43 or divided the space between the eastings into equal divisions. The most common error here was using the area of huts further west, in 4188, missing the reference to “The Range”.

(b) Land use in 4689 was bush. Either dense or medium was accepted, due to the difficulty of distinguishing the subtle difference in the map symbols.

(c) Fig. 1 highlighted two grid squares and some of their features. A was a power line. B was the wide, tarred road. C was the braiding in the river, forming an island. D was a reservoir. Candidates had

greater difficulty with the latter. This was understandable since the blue symbol was hard to pick out. However, the small circle and letter R were clearly marked on Fig. 1. A number of candidates had not paid enough attention to this and thus suggested huts or buildings for D.

In **part (v)**, the Mazowe River was flowing west to east across these squares, and either an arrow along the course of the river, or a general arrow through the squares could be used to indicate this. Candidates mostly had correct answers.

(d) The compass bearing from the trigonometrical station on Aburndale hill to the summit of Tipperary hill was between 340° and 345°. Common mistakes here were measuring the bearing anticlockwise or giving an answer as a compass direction. The straight line distance between the two points was between 2200 m and 2400 m, for which almost all candidates had a correct answer.

(e) **Part (e)** was designed to simplify the gradient calculation, with all of the data being given, except for the height of the spot height, which was 945 m. This gave a difference in height of 45 m. However, some candidates subtracted 945 from one of the other figures in the question, usually 4600 m. A correct calculation led to a gradient of 1 : 102.

(f) Fig. 2 was a north to south cross-section, on which candidates had to label various features. Chipiso was clearly identifiable and everyone labelled this correctly. However, there were no obvious valleys on the section line, so to mark the other features it was necessary to measure, to locate the position. The best way to do this was to measure from 450920 on the map and then apply the measurement to the section line. The Mazowe river was between 28 mm and 32 mm from the left and the Pote river was between 74 mm and 77 mm from the left. There were two marks for the cultivation, one for marking the southern edge and the other for indicating that it extended between this point and the river. Few candidates showed the extent of the cultivation. In marking the features, accuracy varied considerably. Some candidates had tried to use the vertical scale to identify the locations, but with such a flat slope, measuring horizontally would always be more accurate. The north to south orientation also caused confusion, with some candidates assuming it to be south to north.

(g) Fig. 3 identified an area on the western side of the map. Candidates needed to describe the relief and drainage of this area. The area was higher in the hilly south, with steeper slopes than further north. Heights ranged from 940 m to 1080 m. There was also an isolated hill (in 4187) and valleys. There were two areas of drainage: the rivers in the east flowed east, while the rivers in the west flowed north. In both cases there were tributaries and at the south of the area a river had been dammed. Candidates generally got some of the marks here, but did not always write in enough detail.

Question 2

(a) Fig. 4 showed monthly hotel use in Austria. With its double peak, the two tourist seasons were evident and most candidates identified February and August as the peak months. Errors here included choosing April rather than August, and putting more than one month for each peak. In **part (ii)**, candidates were told of the northern hemisphere location. They could then deduce that the cold months would be at the beginning and end of the year. December, January, February and March were all possible answers and most candidates selected either January or February.

(b) Fig. 5 gave information about a mountainous area popular with tourists. Candidates were asked how the ice skating area was used in the summer. The answer of ‘boating’ was found in the key to Fig. 5. Most also took their answer for **part (ii)** from the key and indeed copied “small town with museum and nightclub”. Cable car was also accepted here.

(c) Candidates then had to consider the proposed new cable car route and Photograph A was provided so that they could see what would need to be installed. It was possible to get all of the marks whichever route was chosen, since there were advantages and disadvantages for each. X went to the top of the ski run, but would damage the wildflower meadow. Y went to a viewpoint, but would disturb the bird nesting site. Z, with fewer towers, would be cheaper to build, but ended in the forest. Candidates generally scored some marks, but not always all of them. This was usually due to explaining advantages and disadvantages in the same terms rather than saying something new. For example, “X goes to the top of the ski run” was fine but “Y doesn’t go to the top of the ski run” was not enough for a second mark.

Question 3

(a) Fig. 6 showed the top 10 rice producing countries and candidates were asked to describe their distribution. This was generally well done, with most pointing to the fact that 9 out of 10 were in Asia, with the remaining one in South America. They also noted that they were mostly in the tropics. A mark was also available for defining the area of Asia: S, E or SE.

(b) Table 1 gave the main rice trading nations in 2012, and candidates needed to compare the listed countries with those shown on the map. Of the top 5 rice exporting countries, Pakistan and USA were not among the top 10 producers (**part (i)**). China, Philippines and Indonesia were in the top 10 producing countries but also had to import rice (**part (ii)**). Most candidates had correct answers for these. Errors were usually the result of looking at the wrong side of Table 1.

Part (iii) was a more open question. Candidates were asked to suggest why a rice producing country would need to import rice. The most common suggestion was the idea of overpopulation or simply not being able to produce enough to meet demand. Demand for a different variety or quality was also suggested. Other ideas could have related to lack of land, e.g. too large an area for cash crops, or a temporary need, e.g. failed harvest. Candidates generally only scored one or two of the available marks.

Question 4

(a) Photograph B was of a rural settlement, located on the side of a gently sloping valley or hill. The buildings were well above the river, so at a dry point site to prevent flooding, and the viaduct indicated the presence of a transport route. Candidates struggled to know what was required here. Their points were often more appropriate for **part (b)**.

(b) Photograph B suggested a number of reasons for the settlement being built at this point. The site's good vantage point made it defensive, there was a water supply, wood for building or fuel and land for farming. The gentle slope was easy to build on, yet above the level of the floodplain, while the river could supply fish or be used for transport. Additionally, the transport route across the valley and the electricity supply would also promote settlement. Candidates generally scored some of the marks, but rarely went into sufficient detail for all four.

(c) The letter H, marked on the photograph, was to indicate an area of new housing. Candidates were invited to suggest two groups of people who would be against the plan for different reasons and to explain these reasons. The marks were given for the explained reason, rather than the named group. Ideas included farmers objecting to the loss of land, tourists objecting to the spoilt view, environmental groups concerned about wildlife disturbance and local people expecting existing facilities, such as health centres, to become overcrowded. Candidates had some good ideas for this section.

Question 5

(a) Fig. 7 showed the relative proportions of five energy sources in USA, China, Russia and India and candidates had to complete the Fig. 7 using the data provided for India. Most had done this correctly.

(b) The main source of energy in the USA was oil, while the greatest percentage of natural gas was in Russia. Most had these correct.

Candidates then had to compare the pattern of energy consumption in India and China. The patterns were very similar, so there were plenty of points that could be made. Both had coal at the highest percentage and oil at the second highest. They had the same percentages for both nuclear and renewable. Candidates found this straightforward.

Question 6

(a) Fig. 8 showed variation in global temperatures over 2000 years by plotting deviation from an average. The temperature variation in 1500 was given at the y axis as -0.17°C to -0.2°C. Most had the digits correct but not always expressed as negative, nor with °C. Temperature variation first reached +0.2°C in 550. No units were needed here so the answer was commonly correct. The temperature range was of the order of 1.175°C to 1.2°C. Candidates had to understand what was

meant by range, and could not simply subtract lowest from highest as they would on a climate graph. Some wrote +0.8°C to -0.8°C, the range of the graph rather than the range of temperatures shown on the graph.

(b) In **part (b)**, candidates were given five 200 year time periods. 600–800 was always warmer than average. 1400–1600 was the coolest period, and this was also the period that showed the largest range of temperature. Candidates generally found this to be straightforward.

(c) In **part (c)** candidates had to explain why periods of higher temperatures could result in coastal flooding. They found this quite difficult. A few mentioned melting ice caps, but did not go into detail about rising sea level or higher tides. Instead they tried to argue for greater amounts of rainfall, but this would not point specifically to flooding of coastal areas.

Section B

Question 7

(a) (i) Most candidates identified the most appropriate line along which to construct a cross-section.

(ii) Most candidates were able to choose the correct equipment to measure the change in slope along a transect. The most commonly chosen distractor was callipers.

(iii) There were many good answers to this question in which candidates were able to describe this popular fieldwork task. Candidates most commonly gained credit for referring to placing the ranging poles at equal distances or at breaks of slope, and measuring the angle of slope by using a clinometer. Only the better answers included details of the important idea of using the same point on each pole to align the clinometer. Some responses were vague and scored limited credit for statements such as ‘read the angle with the clinometer’. A minority of candidates had no experience of the task and wrote about putting the poles in the sea to measure depth or wave frequency.

(iv) Most candidates identified the correct types of dune. The most common error was a failure to identify the embryo dune.

(v) In general, candidates were less certain about the formation of sand dunes. Many candidates associated dune formation with movement by waves rather than by the wind. There were a small minority of precise and accurate explanations, but many candidates scored one or two marks through explaining how the wind picks up and transports sand and then deposits it. A few candidates wrote vague statements such as ‘the wind piles up sand’ but omitted the idea of around an obstacle. Only the best answers included reference to the roots of vegetation stabilising the dunes.

(b) (i) The opportunity for candidates to score well on this question clearly relates to their experience of using a quadrat in their fieldwork. Candidates who had used the equipment gave a clear description of their technique, including putting it on the ground or dunes, counting or estimating the number of squares which include vegetation and recording the results. Few candidates mentioned that the task should be performed more than once and an average result calculated. Some candidates made the error of describing how the number of different types of vegetation should be counted.

(ii) This question is typical of a data completion exercise which is omitted by too many candidates. Most candidates who completed the plotting exercise did so accurately, although some misread the distance scale and plotted both points incorrectly.

(iii) Almost all candidates correctly agreed with the hypothesis and many justified their decision with supporting evidence from the data table. The question discriminated between candidates of different ability because only the best candidates recognised that the hypothesis was not completely correct because of a number of anomalies in the data. Candidates who identified an anomaly and gave supporting evidence from the data scored full marks.

(c) (i) Most candidates scored one or two marks by correctly suggesting appropriate ways of finding out information. A popular suggestion which was not acceptable was to 'ask locals' as they may not know the different types of vegetation.

(ii) Most candidates recognised the need to record other types of vegetation in addition to the main type in order to gain a full picture of vegetation cover. They realised that the method used was a simplistic method of recording information.

(iii) The quality of response varied through the amount of detail and accuracy provided by candidates. Candidates who referred to distance from the high water mark or identified the site by number and referred to specific vegetation types scored both marks. Other candidates merely stated that vegetation changed from grasses to plants but did not give specific names of vegetation type or distances or site numbers.

(d) (i) This question was well answered by many candidates who showed good understanding of how tourists could damage or destroy vegetation.

(ii) This question contained a full range of quality of response. The best answers included a number of valid ideas about how to educate or inform tourists about the best ways to avoid damage, methods to restrict access to vulnerable areas, how to monitor visitors, and practical methods to stop potential damage. Some candidates gave vague responses such as 'employ security guards' and 'do not allow people to enter the area'.

Question 8

(a) (i) Most candidates gave the correct meaning of CBD. A small minority did not know what the key term represents.

(ii) Most candidates realised that a factory was the least likely building to be located in the CBD.

(b) (i) Whilst most candidates correctly concentrated on how the candidates should make use of the questionnaire, a minority wrongly referred to the questions contained in the questionnaire. They wrote about how to improve the questionnaire or suggested new questions to include. They did not read the stem of the question which states: 'The teacher gave the candidates the questionnaire to use.' Candidates who had undertaken similar fieldwork when using their own questionnaires had probably heard their teacher giving them advice such as 'be polite to the people you are asking', 'work in pairs, not a big group' and 'do not block the footpath when talking to people'. Another common answer focused on how to select people to receive the questionnaire. Candidates used their understanding of a sampling technique in order to get a variety of respondents.

(ii) This question proved to be the most challenging on the paper. Common errors were made by constructing overlapping groups or not covering a specific age, for example, 'under 15 and 16 to 40'. Some candidates did not seem to understand the need for mutually exclusive age ranges and suggested age groups of 'under 30' or 'over 40'.

(iii) This question again revealed the problem of too many candidates not attempting a graph completion question. Generally, the bar graph was completed accurately with few errors. Where candidates did not complete the bar appropriately it was usually because of an error in plotting the lines or putting the sections in the wrong order.

(iv) Most candidates understood the process involved in producing results based on different weightings. An error made by some candidates was to omit the '+' sign which was needed because the table contains both positive and negative scores.

(v) Most candidates plotted the bar accurately using their answer to the previous section. If their total score calculation was incorrect in **(b)(iv)**, their answer was credited in this section if it was plotted accurately.

(vi) There was a wide range in the quality of answers as candidates made a decision about hypothesis one and supported their decision with evidence. Almost all candidates agreed with the hypothesis. The best answers used evidence from both resources (**Figs. 7** and **8**) to support their decision. The candidates showed their understanding of the data through phrases such as 'most people agreed that the shop had provided more jobs' and 'all four statements have positive scores'. They then

supported these statements with appropriate data. Some candidates referred to one resource and showed a lack of understanding through answers such as 'the shop provided jobs' rather than how many people agreed with the statement, or '140 people said the shop has provided more jobs' not recognising that this figure was a weighted score, not the number of responses.

(c) (i) The two separate tasks in this section varied in difficulty. More candidates made appropriate suggestions to overcome the difficulty of an environmental survey being subjective. Usually these suggestions focused on averaging individual scores, although some candidates did suggest that a group of candidates should discuss their fieldwork and agree an environmental score. Whilst many candidates correctly suggested that the difficulty of scores varying at different times could be overcome by conducting all surveys at the same time, other suggestions included doing the surveys at different times of the day and averaging the scores which would not provide direct comparability.

(ii) The simple task of plotting the bar graph was not attempted by 10% of the candidates. Candidates must read the question paper carefully so that they do not omit graph completion questions. Candidates who plotted the bar usually did so accurately.

(iii) Most candidates made the correct decision to disagree with the hypothesis. Having made the correct decision, candidates went on to give evidence of higher scores near to the shop and lower scores further away. The candidates recognised that the environmental quality at sites near to the store was better than at sites further away. They made good use of the map to show spatial awareness in order to contradict the hypothesis. A minority of candidates did not use the evidence appropriately and so incorrectly agreed with the hypothesis. Also a small minority of candidates were side-tracked into considering individual scores in the environmental survey which did not gain credit. Another error made by a few candidates was to try to explain why the new shop might have a negative effect, for example, traffic noise. This was irrelevant and also incorrect in this case.

(d) (i) Many candidates were able to draw an appropriate recording sheet, showing that they had used them in their own fieldwork, but probably not devised a scoring sheet themselves as it would be usually provided by the teacher. They included space for details such as location or date or time of survey, some reference to counting or tallying the number of pedestrians, and an indication that they would use the tally count to calculate a total score. A few candidates drew an inappropriate recording sheet to use such as a bi-polar survey or a simple questionnaire .

(ii) The final section proved to be an effective extension question. It differentiated well between candidates of different abilities, although few candidates scored full marks. Many referred to groups of candidates going to data collection points and recording the pedestrians who passed them by filling in the tally sheet. Only the better candidates wrote about the importance of starting and finishing the count at the same time. As in the previous section, some candidates wrote about interviewing people or doing a bi-polar survey. A minority of candidates described how a traffic survey could be done and gained some credit where there were ideas common to both.