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GEOGRAPHY

Paper 0460/12
Paper 1

Key messages

In order for candidates to perform well on this paper they should:

- follow the examination rubric correctly and answer only three questions, one chosen from each of **Sections A**, **B** and **C**
- study the entire paper and resources provided before selecting the three questions with care
- answer all parts of the three questions they choose in the spaces provided
- respond in the correct way to command words and words which indicate the focus and context of each part, avoiding the inclusion is material which is not relevant
- know geographical terms and be confident in using them correctly
- be guided by the mark allocations in order to write answers of an appropriate length
- write clearly and legibly, avoiding vague words or statements which should be qualified or elaborated
- ensure that ideas are developed and linked when extended writing is required in those questions worth five or more marks
- use and interpret various types of graphs and diagrams with confidence and accuracy to support ideas
- interpret photographs, graphs and maps with precision, looking at them carefully and referring to the evidence in them. When the word 'only' is used in a question ensure that the answer is based entirely on the source material provided.
- know the different requirements of describing a general distribution from a map and describing the location of a specific feature
- have a wide range of case studies, at different scales, and choose them with care to fit the questions selected
- include appropriate place specific information in case studies whilst precisely answering the question set, rather than writing long introductions or including surplus information about the topic.

General comments

Stronger responses showed some excellent geographical knowledge and understanding and displayed competence in handling the required skills, performing very well across the paper. Most responses however, whilst not performing as consistently across the paper, did make a reasonable attempt at most parts of their chosen questions, thus the paper differentiated effectively between candidates of all ability levels.

There were a very small number of rubric errors and the presentation of answers from candidates was generally acceptable. Those few candidates making rubric errors tended to answer three questions from the six, selecting two from the same section rather than one from each section.

Questions 1 and **5** were the most popular questions, with **Questions 3** and **4** being of roughly equal popularity. There were good answers seen to all questions, including those requiring extended writing, particularly the case studies on population migration, desert climate, delta formation and the disadvantages of the tourist industry for local people. The best of these answers were well focused and understood, with developed or linked ideas and place specific information. Weaker responses were poorly focused or generic with brief lists of points, not all of which were relevant. Many contained unnecessary general introductions with further irrelevant information about the topic and confused command words such as 'describe' and 'explain' in **Question 4(b)**, and terminology such as 'natural factors' and 'human factors' in **6(c)**. Many candidates did not score marks consistently across the paper as they missed key words such as how the relative humidity percentage 'can be obtained' in question **3(b)(i)**, and 'cross-section' of the river valleys in **4(a)(iii)**.

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

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Comments on specific questions

Question 1

(a) (i) Most candidates identified the correct formula. The answer of 'birth rate – death rate + migration' was the most popular distractor.

(ii) Most candidates ranked the countries in the correct order of growth.

(iii) As usual many candidates struggled to describe a distribution. Many candidates scored one mark for identifying the north or naming a continent such as Asia or Europe, but few were more precise and went beyond these simple ideas. Some candidates just named countries, such as Russia, whilst others wrote about countries which had increased their populations most rapidly rather than, or in addition to, focussing on those which decreased.

(iv) Many candidates answered inappropriately because they did not recognise from Fig. 1.1 that the countries experiencing a decrease in population were MEDCs. Consequently, many responses were focussed on reasons for high death rates which were typical of LEDCs not of MEDCs. Thus, the many references to famine, poor sanitation and lack of health care for example were simply not relevant.

Candidates who gave relevant answers correctly stated that the death rate was higher than the birth rate and/or that emigration exceeded immigration. Better responses included ideas about why families were having fewer children, such as women choosing careers over having many children. A small number were able to refer to valid reasons for increasing death rates, such as HIV/AIDS and/or alcohol abuse, heart disease or obesity.

(b) (i) Answers varied in relevance. Some candidates correctly related pensions to old age or retirement, but weaker candidates confused pensions with income obtained through working. More candidates gave appropriate explanations of how equality for women would reduce the birth rate, particularly by referring to access to education and a career structure. Some candidates misinterpreted improved health care as impacting on general life expectancy, but more perceptive candidates correctly linked it to lower infant mortality.

(ii) Candidates who correctly understood the focus of the question scored well, with most answers including reference to China's one child policy. Stronger responses included specific details about the incentives or benefits and the penalties associated with the policy or ones which were similar.

(c) Most candidates used Mexico to USA or India to Qatar as their case study. Some high-quality answers were seen, including developed ideas and place detail, however many candidates, including some of the more able, only listed simple ideas and many answers consisted of a series of bullet points, frequently listing push and pull factors separately. Some candidates gave appropriate statistics which helped to add precision, however others relied on statistics alone rather than integrating these into their explanations. Many candidates included irrelevant information, ranging from background information about the country to details of the problems caused by migration, both to the migrants and the countries concerned. Whilst it is accepted that candidates will have practised questions set previously it is important that they answer the ones which are on their paper rather than those they have previously studied.

Question 2

(a) (i) The term was not defined clearly by many candidates, in particular few included reference to a town or city to show their understanding of the word 'urban'.

(ii) Most candidates identified the CBD in the centre of both models. Whilst a few candidates identified the obvious difference between the concentric circles and the sectors the most common difference which was identified was that there was more middle-class housing in model B.

(iii) Some candidates correctly compared the likely class, cost, size or density of housing, however there were many irrelevant answers which focussed on pollution, traffic or squatter settlements and some which referred to one area only rather than comparing.

(iv) Whilst relatively few candidates understood what the question required, especially the need for renovation, slum clearance and the use of inner-city areas for new economic developments, some did gain credit by referring to road building or traffic management. Many candidates incorrectly explained why the CBD is changing which was not was the question was asking.

(b) (i) Whilst many candidates correctly identified some features of the CBD seen in Fig. 2.2, such as high buildings, public open spaces and high density land use, some did not restrict their ideas to photographic evidence and wrongly included features which they would expect but could not see in the photograph, such as lots of pedestrians and vehicles.

(ii) Narrow or inappropriate roads and increased car ownership were popular responses. Weak answers were characterised by ideas such as 'lots of traffic' and 'many people in the CBD' without explaining why they were there.

(c) Whilst there were relatively few answers which focussed in a detailed way on a specific city two notable exceptions were Delhi and London. Generally, candidates described some appropriate strategies, often producing simple generic lists, sometimes in bullet points, but did not include any descriptive details or place detail to link their points with the example chosen.

Question 3

(a) (i) Whilst many candidates correctly identified oktas, other answers were selected, especially knots.

(ii) Many candidates mixed up the cloud descriptions, especially cumulus and stratus.

(iii) The best descriptions were of stratus clouds. Candidates found it more difficult to describe the other two types, many referring to negative characteristics such as 'no rain' rather than what they could actually see in the resource.

(iv) Answers varied in relevance and detail. Better responses gave detailed explanations referring to observation, estimating cover, repeating each day at set times and commenting on how the clouds could actually be identified. A common error was to refer to recording the data but not saying how this could be done. Others referred to collecting irrelevant information about other variables, such as rain, sunshine hours and temperatures.

(b) (i) Many candidates explained how a wet-and-dry bulb thermometer works rather than how it is used. Consequently, few referred to reading off temperatures or calculating the difference or using a relative humidity table.

(ii) Those candidates who used the graph with precision and referred to specific times gained credit in a simple way by describing the rise and fall of temperature and relative humidity between particular times though some misread the key and reversed their answers. Many candidates used broad terms such as 'morning' or 'evening', 'early' or 'late', which are too subjective, rather than rather than referring to specific times or referred to a single point in time rather than describing 'changes' as required. The most common way in which candidates did gain credit was for their recognition of the contrasting trends of increasing and decreasing temperature and relative humidity, an inverse relationship.

(c) The question provided good differentiation and examples chosen were quite varied, ranging from the Sahara to the Thar Desert. Where candidates linked description and explanation together, they scored well, and some candidates used appropriate temperature or rainfall statistics to gain additional credit. However, it was noticeable in this question that many responses included many irrelevant details, about vegetation and wildlife for example. The question clearly asked about climate and the inclusion of much irrelevant detail, from largely but not exclusively weak candidates, detracted from the overall quality of the responses. It was not uncommon to see a few brief sentences about climate with the rest of the answer space being filled by other information about deserts.

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Question 4

(a) (i) Many candidates often had no real understanding of the term addressed in the question. Those that did refer to it as 'land surrounding the drainage basin' did not include reference to this being high land. The use of the word 'boundary' was insufficient for credit.

(ii) More than half of the candidates wrongly drew the arrow pointing upstream and identified the source where the river left its drainage basin.

(iii) Many candidates followed up their mistake in the previous answer by identifying the valley at Y as being further upstream, consequently any differences they identified were the wrong way round. Also, many candidates did not refer to the valley 'cross section', instead they wrote about the river, the river channel or the long profile. A few candidates did correctly refer to Y being wider or having more gently sloping sides.

(iv) Many candidates scored well, typically gaining three marks. They suggested benefits such as fertile soil or water for farming, and water for domestic purposes or referred to transport along the river or valley. Most candidates suggested the problem of flooding and a small number also referred to problems caused by erosion of the land or by mosquitoes.

(b) (i) Few candidates scored more than one mark for their description of the main features, describing the lake as being curved. Reference to it being an oxbow lake was accepted as an alternative to this point. Many candidates did not follow the instruction to 'use the map' but wrote about still water and deposits, however a few candidates who did use the map and scale included measurements of its length and/or width for additional credit. A common error was to explain the formation of an oxbow lake rather than describe its features, with many candidates who did this repeating their answers in the following question. If candidates find themselves writing the same answer for two questions on the paper that should be an indication they have made an error in one of them and they need to go back and look more carefully at the command words used in the questions.

(ii) This was a good discriminating question and there were some excellent detailed explanations of the sequence of processes leading to the formation of an oxbow lake. Two common weaknesses seen in responses were not identifying that erosion took place on the outer bank and attributing the cutting off of the meander to deposition rather than erosion. Clearly deposition plays a part in sealing off the meander, but erosion is a prerequisite for the meander to be cut off.

(c) This question also discriminated well. Many candidates developed their responses by linking together description and explanation well. Stronger responses included details about the different deposits making up a delta, made reference to the development of distributaries and explained the importance of flocculation. Weaker candidates generally managed to gain some marks by reference to deposition, however a small minority clearly had no idea what a delta was.

Question 5

(a) (i) Most candidates correctly identified beaches.

(ii) Many candidates identified a sanctuary and a National Park, however some answers from weaker candidates suggested that the word 'conservation' was not familiar to them.

(iii) The most common correct answer was the location of the airport on the south west coast. Very few candidates attempted to locate the airport by using distance or direction with many merely stating that it was 'near' to various places or roads. Others tried to explain the location rather than describing it.

(iv) Many candidates did not have a clear understanding of 'infrastructure'. Some candidates did refer to roads, railways and the airport and so gained credit, but these ideas were often within an answer which contained many irrelevant ideas about other facilities. A common mistake was to explain why infrastructure or buildings had been developed, such as response to tourism or using tourist revenues.

(b) (i) Many answers lacked precision in describing the change between 2002 and 2009. However, most candidates did describe the rapid increase, followed by the reduced rate of increase in the later time periods.

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(ii) This discriminated well. The best answers included a variety of reasons for both seasonal and annual changes. These stronger responses identified aspects of the weather, natural hazards, political turmoil, festivals and outbreaks of disease as reasons for seasonal variation. Fewer candidates referred to annual variation through factors such as development of new attractions, economic fluctuations or advertising.

(c) This question also discriminated well with case studies typically being from areas in India, Dubai, Mauritius or the Maldives. Some candidates incorrectly focussed their answers on environmental problems with no links to local people whilst others wrote all they knew about tourism in a location, starting with why people visited, the benefits for local people and then finishing with some disadvantages. As in all case studies many candidates gave some relevant ideas but relatively few actually developed them and included place detail to reach the highest levels.

Question 6

(a) (i) Most candidates correctly named potatoes or oil seed rape.

(ii) Most candidates used scale and direction well to identify wheat and barley.

(iii) Most candidates correctly identified the decrease in barley production and grazing and the increase in wheat production. Some did this by precisely referring to the variation in the number of fields used for the three purposes.

(iv) The reduction of the woodland area was the most common correct answer followed by reference to one of the streams having been removed. Relatively few candidates referred to field boundaries having been removed to create more space. Many candidates wrote about farm buildings but did not specify that one had been removed from a field to increase available farmland. A common misconception was that the reduction in pasture would increase the area for farming.

(b) (i) The question discriminated well. ‘Arable’ and ‘commercial’ were correctly identified by many candidates but ‘plantation’ was often included rather than ‘intensive’. ‘Mixed’ farming was another common distractor chosen.

(ii) Many candidates showed their familiarity with the systems diagram and correctly identified and categorised inputs, processes and outputs.

(c) Sudan was the most commonly chosen example, though there was a range of other case studies. Many candidates were able to identify natural factors such as drought, infertile soil, pests and flooding which cause food shortage, however a significant number also included irrelevant human factors, such as war or a lack of finance to buy inputs such as fertilizers and pesticides. The higher scoring candidates linked relevant natural factors with a low yield of crops or failed harvests to develop their responses.

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GEOGRAPHY

Paper 0460/22
Paper 2

Key messages

- In **Question 1(e)** candidates had to identify features on, and complete, a cross section (syllabus page 21). This was not well answered and is an area for improvement.
- When describing map distributions as in **Question 2**, candidates should avoid terms like 'above', 'below', 'left' and 'right' and use compass directions.
- In **Question 3(d)** candidates were able to identify the destructive plate margin from the map in **Fig. 3.2** but were often unable to explain the processes which would lead to volcanoes at this type of margin.
- In numerical answers candidates should always quote the correct units, e.g. population density per km^2 in **Question 2** and temperatures in °C in **Question 4**.
- When asked to give differences between two features, as in **Question 5(c)**, candidates should make comparative points and not refer to just one of the features.
- When describing line or bar graphs, as in **Question 6**, candidates should try to identify general trends rather than commenting on every individual change in the graph.

General comments

The response to the paper was variable with a wide range in the quality of answers. There were aspects of each question which some candidates found difficult and these are outlined below. Candidates had little trouble in completing the paper in the allotted time and few found it necessary to use additional pages for their answers.

Comments on specific questions

Question 1

(a) Generally, candidates were able to score high marks on this section, showing good skills of finding features on the map and identifying them using the key. **A** was a main road, **B** was a church, and **C** was an outstanding tree. The height above sea level at **D** was 306 m, the land use at **E** was conifers and the height of the contour at **F** was 250 m.

(b) Many candidates gave correct figures for the distance measurement and the bearing. Examiners allowed answers within tolerances of 9200–9700 metres and 159–163°.

(c) There were many excellent answers to this question which required candidates to compare two areas of the map. The relief sections proved most difficult: there was flat land in neither area and land over 400 m in Fig. 1.3.

(d) Those candidates who correctly identified the railway in the south west of the map extract described the route well, often referring to the winding route, following a valley, crossing the river at Chat de Montjardin, following the river and road, linking settlements such as Aywaille or Nonceveux, passing through a tunnel, and generally travelling west to east. However, a significant number of candidates failed to identify the railway in the first place and often described roads and paths in the south west.

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(e) Many candidates found this difficult, possible because the line of the cross section was from north to south and not from west to east. The first three parts of the question could be given by measuring first along the line of section in Fig. 1.4 and then on the map, using a ruler or the edge of a piece of paper. This would give the answers of road for **X**, railway for **Y** and telecommunications mast or tower for **Z**. For the completion of the cross section, credit was given to answers which showed the land falling to the north and not rising.

Question 2

(a) Most candidates correctly stated the population density of South Africa as 41–80 people per km^2. When describing the distribution of countries with 81–120 people per km^2, credit was given for noting that the countries were in the northern hemisphere, mostly coastal and both in the east and west of the continent. As mentioned in earlier in this report, expressions such as 'above the equator' or 'on the left of the map' did not gain credit.

(b) This part of the question (and **part (c)**) involved the use of both Figs. 2.1 and 2.2. Answers were generally good with candidates describing the population density of the area of hot desert south of the Equator as sparse, less than 16 per km^2 and with a small area of 41–80 per km^2 in the south. Candidates generally identified Egypt as a hot desert country which was more densely populated, however many marked their '**D**' on Fig. 2.2 and not on Fig. 2.1.

(c) Candidates found this part of the question more difficult. Credit was given to those candidates who noted that the population density of the area of equatorial climate was variable, ranging from more than 120 to less than 16 per km^2, denser on the coast and denser in the west.

Question 3

(a) This part pf the question tested knowledge of terms listed in the syllabus (section 2.1). Most candidates were aware that molten rock below ground was *magma*, the depression at the top of a volcanic cone was a *crater* and that a volcano made up of alternate layers of lava and ash was a *strato-volcano* or *composite cone*. The most common error was to identify a lava dome or shield for the last part of the question.

(b) Most candidates used Fig. 3.1 to identify the earliest sign that Mount Agung might erupt in 2017 as *earthquakes*.

(c) Most candidates used Fig. 3.1 to identify final event of the 2017 eruption as *minor emissions of steam and smoke.*

(d) When using information from Fig. 3.2 to explain why there are active volcanoes in Indonesia, almost all candidates correctly identified the convergent plate margin. However, they were often not able to develop this answer to score any more marks and sometimes wrote irrelevantly about fold mountains or earthquakes. Credit could have been gained by referring to subduction, melting of the subducted plate and rising magma.

Question 4

(a) Most candidates correctly read the graph to give the correct January temperature of 36°C, then used this figure and subtracted the July temperature of 13°C to give an annual temperature range of 23°C. The most common errors were to fail to do the subtraction or to fail to give any units.

(b) The wet season was in June and July in the southern hemisphere, so this was winter rain. Many candidates answered summer and even spring and autumn. Most were able to add the five monthly rainfall totals (5 mm, 2 mm, 6 mm, 5 mm and 2 mm) to give an annual rainfall of 20 mm.

(c) Most candidates noticed the thorns in Fig. 4.2 and noted that these were to prevent the plant being eaten by browsing animals and hence conserve moisture. Slightly fewer candidates noticed the small leaves which reduced water loss through transpiration. A small number of candidates described features not seen in Fig. 4.2 such as deep roots.

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Question 5

(a) Most candidates knew that the letters HDI stood for Human Development Index, a term in syllabus section 3.1.

(b) Most candidates were aware that the type of graph most suited to show the HDI data in Table 5.1 would be a bar graph and were able to calculate that a person in Australia was expected to live 26, or 26.4 years longer than a person in Niger. Slightly fewer were able to say what was unusual about the death rate in Bolivia. Examiners accepted answers which stated that it was low, or lower than expected or lower than Australia. Almost all candidates recognised that the standard of living or wealth of the people would be shown by the GDP per capita.

(c) Those candidates who answered the question and stated differences between Figs. 5.1 and 5.2 which show inequality of living standards scored well. Others gave features from one photograph but failed to point out how these differed from the other photograph. Examiners accepted differences in several features including building density, gardens (or 'greenery'), building condition or quality, windows, space for cars, swimming pools, roads, garages, and solar panels.

Question 6

(a) Using Fig. 6.1, the main changes in HEP generation were that it fluctuated from year to year with a slight overall decrease. Other renewables were steady until 2005 and then increased. Those candidates who picked out overall trends like these scored well but those who attempted to describe every annual change often missed the main points.

(b) Answers were often weak because candidates gave advantages of HEP production for the area rather than giving advantages of the site for HEP production. Some candidates pointed out that the sparse population would mean that few people would be displaced but fewer referred to relief features such as the narrow valley or steep slopes.

(c) Candidates scored higher marks on this part of the question, with examiners accepting a variety of reasons why local people might be for the construction of the dam but other people might have been against it. Candidates often referred to the supply of electricity or water, a new source of employment, or the development of tourism based on the lake. Reasons why people might be against the dam included loss of land or habitats, visual pollution and construction noise.

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GEOGRAPHY

Paper 0460/42
Alternative to Coursework

Key messages

Here are a few messages to pass on to candidates for them to consider in their preparation. These have been suggested by examiners based on scripts they have marked:

- When answering hypothesis questions that ask whether you agree or not, always give your opinion at the start of your answer before any supporting evidence. This will usually be *Yes, No* or *Partially / To some extent*. Do not just copy out the hypothesis if you agree with it. It is important to decide and state it as well as provide the evidence or data for your choice. Be clear in your decision – expressions such as '*might be true', 'could be false*', '*almost true*' are too vague.
- When giving figures in an answer always give the units if they are not stated for you, e.g. data evidence in **Question 1(d)(iv)** should refer to site numbers and percentages of vegetation from the sources referred to. It is also important that any numbers are clearly written, e.g. a 4 can look like a 9; a 7 can look like a 1; sometimes a 2 looks like a 5.
- When shading graphs, use the same style as that provided in the question and make sure your pencil gives a good dark image. Check you understand the scales used and the importance and style of any plots already provided, e.g. on **Question 2(d)(i)** some candidates shaded the vertical lines of the pie graph at diagonal angles parallel to the 90° line which was well beyond any tolerance allowed.
- When completing pie charts or divided bar graphs, complete these in the order of the data given and in the order of the key, e.g. **Question 2(d)(i)**.
- When you think you have finished, go back and check that all graphs have been completed; too many candidates lose easy marks by missing out graphs, e.g. **Question 2(d)(iii)** on this paper.
- Read questions carefully and identify the command word, e.g. *Describe..., Explain…* A question that asks *'Why?*' requires a reason to be given not a description. If a question asks for data then you must use statistics from resources whereas evidence may be a qualitative answer.
- Check you are using the resources that a question refers you to, e.g. **Question 2(d)(ii)** Fig.2.4 and Table 2.1. If exact figures are given in a table, these should be the ones referred to in evidence rather than estimating from a graph.
- Consider the marks awarded. Examiners do not expect you to be writing outside the lines provided, so do not write a paragraph when only two lines are given – this wastes time.
- It is important that, when candidates write the remainder of their answer elsewhere, that they signal it by writing something like – *'continued on page 16'* to ensure that it is seen. It needs also to be noted that some candidates gave the wrong sub-section number by their extra work which made it more difficult to match to their earlier answer and credit correctly.

General comments

Most candidates found this examination enabled them to demonstrate what they knew, understood and could do. It appeared to be a positive experience for most candidates. Weaker responses gained credit on the practical questions such as drawing graphs or diagrams and making choices from tables. Stronger responses scored well on the more challenging sections requiring judgment and decision-making on hypothesis choices with evidence and other written answers.

Question 1 on coastal sand dunes in Brittany, France was slightly less accessible to candidates than **Question 2** on changes to the village of Tickton, UK.

There is less general advice to be given for areas for improvement in this paper. As there are no question choices to make, it is difficult to miss sections out – though candidates do (especially completion of graphs) – and there were no reports of time issues as the booklet format does not allow or encourage over-writing of sub-sections.

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Most points for teachers to consider, when preparing candidates for future Paper 42 questions, relate to misunderstanding or ignoring command words, the use of equipment in fieldwork and the importance of experiencing fieldwork – even if is only in the school grounds or simulated in the classroom. Questions where candidates did not score well often related to them not fully reading the question or just completely missing out straightforward graph completions.

Centres should be aware that, although this is an *Alternative to Coursework* examination, candidates will still be expected to show that they know about fieldwork equipment, how it is used and fieldwork techniques. Some fieldwork experience is vital even if there is only limited opportunity within the centre. Familiarity with maps, tables and the various graphs listed in the syllabus is also important for this examination.

Comments on specific questions

Question 1

(a) This was answered very well. Most candidates wrote down the provided sentences in the correct sequence although a few reversed statements 3 and 4 which limited their mark to two out of the three available.

(b) It was important for candidates to look closely at the diagram in Fig. 1.1 – several appeared to try to answer this without looking at the diagram thereby making erroneous statements, e.g. putting the ranging poles at equal distances when the diagram clearly indicates that they were being placed on breaks of slope. Stronger responses realised that the poles should be vertically placed on (not in) the sand and should be at breaks of slope; that the tape was placed on the ground to measure the distance between the poles and that the clinometer measures the angle (not the gradient) by lining up the top of two poles.

(c) Most candidates realised that hypothesis 1 was correct but then failed to provide supportive evidence. The stronger responses candidates did realise that the order of the dunes was the same and referred to site numbers or distance to back this up. Very few referred to relative heights though. Weaker responses just compared the location of one or two dunes or described the dunes without any comparison to support their correct hypothesis decision.

(d) (i) The photograph clearly shows a quadrat; it was expected that most candidates being entered for an exam related to fieldwork should have come across this item of equipment. Many weaker responses did not recognise the equipment – inappropriate answers included vegetation net, grid, set square among others. A significant minority did not attempt this question. Some candidates wrote ‘Quadrant’ which has other uses in geography, so this was not credited.

(ii) The correct answer to this was Site 9 however many candidates did not match the correct site with the vegetation cover – in fact there was no common incorrect answer; several other sites were given. There was only Site 9 with 100 per cent cover; sites that were close included 10 and 13 (both 95 per cent) and sites 4, 11 and 14 (all 90 per cent) but as only one site could be the answer it had to be Site 9. The photograph clearly shows 100 per cent vegetation cover.

(iii) Almost all candidates plotted the bar correctly at 35 per cent. A few gave their own shading rather than the one used in complete bars. This was acceptable on this paper in this session but candidates should get into the habit of using the shading provided as, on some occasions, correct shading might be worth a mark.

(iv) Most candidates correctly chose the 'partially' true option and the best candidates used sites and percentages to illustrate the increase and decrease in vegetation cover with distance away from the sea. Other candidates however just referred to the sites with no percentages used as evidence; a few gave similar site data evidence to prove two increases or two decreases instead of one of each. A small number decided the hypothesis was 'not at all' true and gained no marks.

(e) This was the least well answered sub-section on the paper. Many responses just suggested that the students repeated their fieldwork or 'did it again'; this was too vague an answer for credit – it does not make results more reliable as required. The few candidates that did this well gave more insight such as measuring more sites or measuring at shorter intervals and taking an average of the results. Another suggestion was to get another student or another group to do the same measurements and check these against each other.

(f) (i) Many candidates gained both marks for stating simple ideas about identifying the species. These included checking with a teacher or expert, taking a sample or photograph or carrying out research in a book or encyclopaedia or the internet. Inappropriate answers included asking local people or other students.

(ii) Almost all candidates plotted this correctly.

(iii) Many candidates gained marks here for stating that there was no overall pattern or that the number of species increased and decreased; it was also accepted that, overall, there was a slight increase in species numbers with distance from the sea especially if the anomaly at Site 2 was ignored. The best candidates did recognise and compare the range of species at their respective Sites such as Site 1 = 0 and Site 2 = 7. A small number of candidates stated that every site was different; this was not true as there are several sites with the same number of species, e.g. 3, 6 and 7 and 8, 9 and 12.

(g) Four different methods to protect sand dunes were illustrated in the photographs in the Insert. As no method was named, it was important for candidates to state the method and describe how each would protect the dunes. Consequently, an answer that stated, for example, *'This will stop people walking on the dunes'* was not credited whereas an answer that read *'The pathway will prevent people walking on the dunes'* for Method 2 would get the mark. Most candidates did do this and gained high marks; a few ignored the method completely so gained few marks from the four available. Some just stated a method and said it protected the dunes without describing how. Some misconceptions were that in Method 3 the planting of grass helped to keep people off the dunes or that trampled vegetation was being replaced. Method 4 was occasionally thought to be windbreaks to protect the walkway rather than fencing.

Question 2

(a) Most candidates recognised the correct definition in the 3rd row. The most common error seemed to be thinking that the *'transition zone…'* answer was correct.

(b) (i) This question was well done. Most candidates recognised the village as being linear in shape along the old road or near the river. A few described it as nucleated which was hard to understand.

(ii) Almost all candidates recognised that the village had grown or expanded since 1960 and then went on to state that most building was between 1960 and 1985. Less well done was their description of where it had grown; there were too many 'near the by-pass' or 'near a road' and some negative statements such as 'not near the river' which does not describe how it had changed. More specific detail such as 'between the by-pass and old road' or 'on both sides of the old road' would gain marks. Reference to the new bridge or new by-pass being built were not deemed to be part of the changing village so were not credited.

(iii) Matching photographs to map locations is a well-used traditional geographical skill but this question was not answered very well. Location 3 was the correct choice which can be justified by the linear arrangement of the housing along an old road with old irregular architecture. Even if the candidates were unfamiliar with the 'old' appearance, all the other possibilities for locations would not fit the photograph. Location 5 was by the river; Location 1 did not indicate a row of housing by the road. Location 2 would have shown a modern by-pass in the photograph as would Location 4 which had modern housing built since 2005. Only Location 3 indicated a row of linear housing by an old road as shown in the photograph.

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(c) As has often been the case, questions on sampling prove difficult for many candidates although, on this occasion, the vast majority could name one of the three sampling techniques they should have studied, i.e. systematic, random and stratified. Questionnaires and surveys were suggested which are not sampling techniques. Systematic (not systemic) and Random sampling were equally popular. The question required an explanation of why the technique was chosen for use with questionnaires, so a description of how it worked would not gain credit. The better candidates gave a description and then explained why it would avoid bias and would be quick or save time. Some did not mention the latter point which would have provided one mark for a simple answer. Avoiding bias was occasionally suggested without any explanation as to why this would be the case. Sampling and knowledge as to why some techniques would be chosen in different circumstances is an area that could be addressed in preparation for this examination.

(d) (i) Most candidates plotted the 97 per cent line accurately at around 349° and within tolerance; they also took care in shading the two slices using the provided key and making sure they matched the clockwise order in the key. A few plotted the 97 per cent line at 93 per cent but gained credit if the largest slice was correctly shaded with vertical lines. Many candidates did not makie sure the lines were vertical as in the key; a generous tolerance was allowed here but some still managed to draw the lines at almost 45° angles. A significant minority did not attempt the pie graph.

(ii) This was well done by most candidates. The hypothesis was False and the common justification for choosing this was that only 11 per cent of workers were born in the village and that the main reason for living there was ease of access to work. There was one mark for a statement and one mark for data to support this. Another common correct answer was that the hypothesis was false because the majority lived there for ease of access to work and the figure for this was 63 per cent. Either way of answering was seen and credited with full marks. A few candidates just gave statements and no data but overall many candidates did gain all three marks here.

(iii) Most candidates who attempted this did well and drew a 6 cm arrow heading towards Bridlington. There were a few that were either too wide or narrow; a couple drew the 6 cm bar in the key and more than one wrote the number six by Bridlington but otherwise this was answered well. A small number did not attempt this at all.

(iv) Almost all candidates made the correct decision here by stating that the hypothesis was true. However, instead of going on to state that this was because $\frac{2}{3}$ or $\frac{37}{52}$ workers worked in the five places within 20 km of Tickton, many just stated that most workers were in Hull and Beverley or they were in four places but excluded Tickton village from being within the 20 km range. Many responses only stated there were 37 workers beyond 20 km – the number on its own without reference to the total of 52 was meaningless. Very few took the alternative route in stating that few worked or only $\frac{15}{52}$ worked in the two places – York and Bridlington – that were beyond the 20 km range. Despite correct hypothesis decisions, few explanations were credited with full marks.

(e) (i) Most candidates correctly ticked the ‘secondary’ choice although all other choices were also seen as ticked.

(ii) These were two quite difficult plots so tolerance included the plots being on the 750 and 1050 lines or just above but touching the lines and most candidates did do this. A few misplotted using the vertical axes incorrectly with plots below 750 or below 1050 and these were not credited. A small number of candidates drew correct plots but did not join them up in a line; this was not penalised on this occasion but sometimes there is a mark for joining up the plots so candidates should get into the habit of doing this where a graph is incomplete.

(iii) Most candidates recognised that the population of the village had increased or grown over the whole period from 1901 to 2011. Many then went on to choose a particular time period where there was a change, e.g. the slow increase up to 1971 or the steep increase from 1971–91. Use of terms such as ‘*gradual*’, ‘*slow*’, ‘*constant*’, ‘*steep*’ or ‘*high*’ to describe growth were fairly loosely applied and a certain tolerance was allowed apart, for example, from the word ‘constant’ when applied to the whole period.

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(iv) This question was not well answered in most responses. There were many generic answers such as pollution, noise, litter without any further detail. Air or atmospheric pollution from increased vehicles was accepted as was water pollution in relation to waste in the river. Noise could only be accepted if related to its effect on wildlife. Deforestation is a term usually applied to large-scale forest such as rainforests rather than local areas so was not credited given the scale of this area but cutting down trees or vegetation and the loss of wildlife or biodiversity were better and more realistic responses and they were credited. Some candidates ignored the phrase '*local natural environment*' entirely and listed traffic congestion, house building problems or referred to global warming and sea levels rising.

(f) This question differentiated well between candidates. Candidates were required to describe a suitable method – note one only – to carry out fieldwork about village shops and services. There were two main methods that candidates were expected to write about – one being producing a map of the shops and services in the village and the other being carrying out a questionnaire with customers in the village. The best responses – which were credited in both methods – suggested carrying out a pilot survey or drawing up a hypothesis before undertaking the fieldwork; there were few examples of these ideas though.

Some candidates wrote about both methods but were only credited for one as required by the question. Using a questionnaire was more popular but not many candidates could go beyond suggesting where this might take place and what type of question could be asked. Sampling techniques were suggested but not credited as this topic has been dealt with earlier in **Question 2**. The creation of a land-use map – a standard exercise in traditional geography fieldwork – was surprisingly limited. Answers should have suggested surveying the whole area – it is only a village of just over 1700 people – in groups, and designing a key to show the different shops and services which could be based on type or on low/high order provision.