Pearson Edexcel

INTERNATIONAL ADVANCED LEVEL

GEOGRAPHY

SAMPLE ASSESSMENT MATERIALS

Pearson Edexcel International Advanced Subsidiary in Geography (XGE01)
Pearson Edexcel International Advanced Level in Geography (YGE01)
First teaching September 2016
First examination from June 2017
First certification from August 2017 (International Advanced Subsidiary) and August 2018 (International Advanced Level)
Issue 2

Edexcel, BTEC and LCCI qualifications

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Acknowledgements

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ISBN 978 1 4469 3213 1

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Summary of International Advanced Subsidiary/Advanced Level Geography SAMs Issue 2 changes

Summary of changes made between previous issue and this current issue	Page number
Acknowledgement and introduction pages have been added.	the inside front cover page, 1
General marking guidance is at the beginning of the SAMs and not included in the mark schemes for each unit.	3 - 4
The mark schemes for all units have been formatted.	throughout
The title of Unit 4 has been corrected to `Researching Geography`.	137, 139
In Unit 4, in the generic mark scheme for `Introduction; defining and focusing on the question` the second bullet point in the `1 - 2` mark band, has been corrected to `Neither focus nor framework addressed`.	163

This document is Issue 2. We will inform centres of any changes to this issue. The latest issue can be found on the Pearson website: qualifications.pearson.com

Contents

Introduction

The Pearson Edexcel International Advanced Subsidiary in Geography and the Pearson Edexcel International Advanced Level in Geography are part of a suite of International Advanced Level qualifications offered by Pearson.

These sample assessment materials have been developed to support these qualifications and will be used as the benchmark to develop the assessment students will take.

General marking guidance

- All candidates must receive the same treatment. Examiners must mark the last candidate in exactly the same way as they mark the first.
- Mark schemes should be applied positively. Candidates must be rewarded for what they have shown they can do rather than be penalised for omissions.
- Examiners should mark according to the mark scheme – not according to their perception of where the grade boundaries may lie.
- All the marks on the mark scheme are designed to be awarded. Examiners should always award full marks if deserved, i.e. if the answer matches the mark scheme. Examiners should also be prepared to award zero marks if the candidate's response is not worthy of credit according to the mark scheme.
- Where some judgement is required, mark schemes will provide the principles by which marks will be awarded and exemplification/indicative content will not be exhaustive. However different examples of responses will be provided at standardisation.
- When examiners are in doubt regarding the application of the mark scheme to a candidate's response, a senior examiner must be consulted before a mark is given.
- Crossed-out work should be marked **unless** the candidate has replaced it with an alternative response.

Marking guidance for levels based mark schemes

How to award marks

For all questions marked using a levels-based mark scheme, examiners should pay particular attention to the initial rubric which begins the indicative content section. This rubric details the Assessment Objective that should be applied when making judgements within each band.

Finding the right level

The first stage is to decide which level the answer should be placed in. To do this, use a 'best-fit' approach, deciding which level most closely describes the quality of the answer. Answers can display characteristics from more than one level, and where this happens markers must use the guidance below and their professional judgement to decide which level is most appropriate.
For example, one stronger passage at L4 would not by itself merit a L4 mark, but it might be evidence to support a high L3 mark, unless there are substantial weaknesses in other areas. Similarly, an answer that fits best in L3 but which has some characteristics of L2 might be placed at the bottom of L3. An answer displaying some characteristics of L3 and some of L1 might be placed in L2.

Finding a mark within a level

After a level has been decided on, the next stage is to decide on the mark within the level. The instructions below tell you how to reward responses within a level. However, where a level has specific guidance about how to place an answer within a level, always follow that guidance.

Levels containing 2 marks only

Start with the presumption that the work will be at the top of the level. Move down to the lower mark if the work only just meets the requirements of the level.

Levels containing 3 or more marks

Markers should be prepared to use the full range of marks available in a level and not restrict marks to the middle. Markers should start at the middle of the level (or the upper-middle mark if there is an even number of marks) and then move the mark up or down to find the best mark. To do this, they should take into account how far the answer meets the requirements of the level:

- If it meets the requirements *fully*, markers should be prepared to award full marks within the level. The top mark in the level is used for answers that are as good as can realistically be expected within that level
- If it only *barely* meets the requirements of the level, markers should consider awarding marks at the bottom of the level. The bottom mark in the level is used for answers that are the weakest that can be expected within that level
- The middle marks of the level are used for answers that have a *reasonable* match to the descriptor. This might represent a balance between some characteristics of the level that are fully met and others that are only barely met.

Write your name here

Surname	Other names

Pearson Edexcel
International
Advanced Level

Centre Number | | | | | |

Candidate Number | | | | |

Geography

International Advanced Subsidiary/Advanced Level
Unit 1: Global Challenges

Sample assessment material for first teaching
September 2016
Time: 1 hour 45 minutes

Paper Reference
WGE01/01

You must have:
Resource booklet (enclosed), calculator.

Total Marks

Candidates may use any calculator permitted by Pearson regulations.

Instructions

- Use **black** ink or ball-point pen.
- **Fill in the boxes** at the top of this page with your name, centre number and candidate number.
- Answer **all** questions in Section A. Answer **either** Question 5 **or** Question 6 in Section B.
- Answer the questions in the spaces provided
  – there may be more space than you need.

Information

- The total mark for this paper is 90.
- The marks for **each** question are shown in brackets
  – use this as a guide as to how much time to spend on each question.

Advice

- Read each question carefully before you start to answer it.
- Check your answers if you have time at the end.

Turn over ▶

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SECTION A

You must use the Resource booklet.

Answer ALL questions in this section. Write your answers in the spaces provided.

Some questions must be answered with a cross in a box ☒. If you change your mind about an answer, put a line through the box ☒ and then mark your new answer with a cross ☒.

1 Study Figure 1 in the Resource booklet.

(a) (i) Name the scale used to measure tropical storms.

(1)

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(ii) Describe the distribution of typhoons shown.

(2)

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(iii) Explain **one** reason why typhoons occur frequently in the area shown in Figure 1.

(2)

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(b) Explain **two** physical reasons why the impact of tropical storms will vary.

(4)

(c) Explain why the social costs of tropical storms are falling but the economic costs rising.

(6)

(Total for Question 1 = 15 marks)

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2 Study Figure 2 in the Resource booklet.

(a) (i) Identify **one** source of evidence used to obtain data for long-term changes to climate.

(1)

.....

(ii) Describe the temperature trends shown in Figure 2.

(2)

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(iii) Suggest **one** possible cause of the temperature changes shown on the graph.

(2)

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(b) Explain how **two** physical feedback mechanisms can reinforce natural changes in climate.

(4)

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2 .....

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(c) Explain why the accuracy of past climate records might be questioned.

(6)

(Total for Question 2 = 15 marks)

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3 Study Figure 3 in the Resource booklet.

(a) (i) Identify the correct statement about the trends shown between 1990 and 2014.

(1)

- ☒ **A** The gap between Sub-Saharan Africa and Europe is decreasing.
- ☒ **B** The gap between East Asia and North America is decreasing.
- ☒ **C** The gap between North America and the world is decreasing.
- ☒ **D** The gap between the world and East Asia is decreasing.

(ii) Compare the trends shown in GDP per capita (PPP) for the world and Sub-Saharan Africa between 1990 and 2014.

(2)

(iii) Identity the region which has shown the biggest change between 1990 and 2014.

(1)

(iv) Suggest **one** reason for the changes in East Asia's GDP per capita (PPP).

(2)

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(b) Explain **one** way national governments encourage globalisation.

(3)

(c) Explain why globalisation has different economic consequences for workers in developed countries.

(6)

(Total for Question 3 = 15 marks)

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4 Study Figure 4 in the Resource booklet.

(a) (i) Name the region which will have the largest population in 2100.

(1)

.....

(ii) Which of the following statements is correct?

(1)

- ☒ **A** All regions of the world will see a % growth in population.
- ☒ **B** The rate of population growth is fastest in Asia.
- ☒ **C** All economically developed regions of the world show a % fall in population.
- ☒ **D** The rate of population growth is fastest in Africa.

(iii) Suggest **two** reasons for continued rapid population growth in some global regions.

(4)

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(b) Explain **one** way technology can help reduce pressure on energy resources.

(3)

(c) Explain why Malthus's views on the relationship between population and resources may not be correct.

(6)

(Total for Question 4 = 15 marks)

TOTAL FOR SECTION A = 60 MARKS

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SECTION B

Answer ONE question in this section – EITHER Question 5 OR Question 6.

Use the evidence provided in the Resource booklet and your own ideas.

5 Study Figure 5 in the Resource booklet.

(a) Explain why players such as those shown in Figure 5 have different opinions about mitigation of climate change.

(10)

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(b) Assess the extent of the uncertainty over future projections of global warming.

(20)

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(Total for Question 5 = 30 marks)

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6 Study Figure 6 in the Resource booklet.

(a) Suggest causes for the changes to the total and structure of South Korea's population from 2015 to 2050.

(10)

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(b) Assess the reasons why attitudes to migration vary from country to country.

(20)

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(Total for Question 6 = 30 marks)

TOTAL FOR SECTION B = 30 MARKS
TOTAL FOR PAPER = 90 MARKS

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Pearson Edexcel
International Advanced Level

Geography
International Advanced Subsidiary/Advanced Level
Unit 1: Global Challenges

Sample assessment material for first teaching September 2016
Resource booklet

Paper Reference
WGE01/01

Do not return this Resource booklet with the question paper.

Turn over ▶

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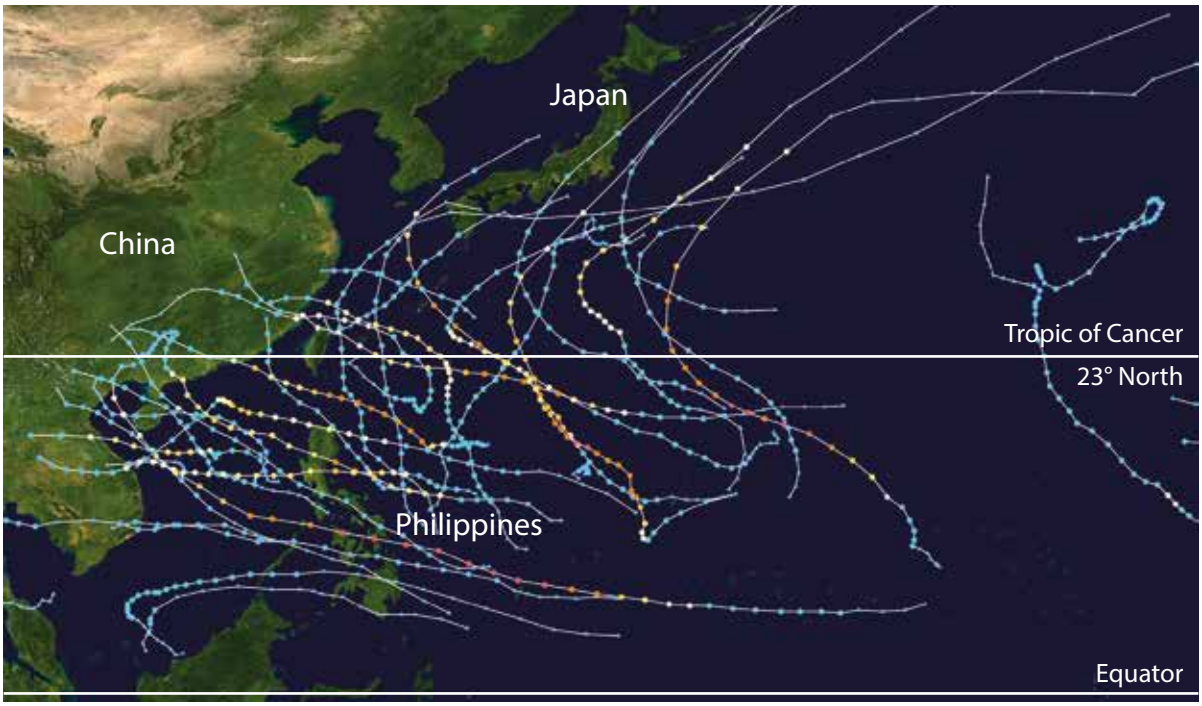
SECTION A

The following resource relates to Question 1.



The points show the location of each storm at 6-hour intervals.

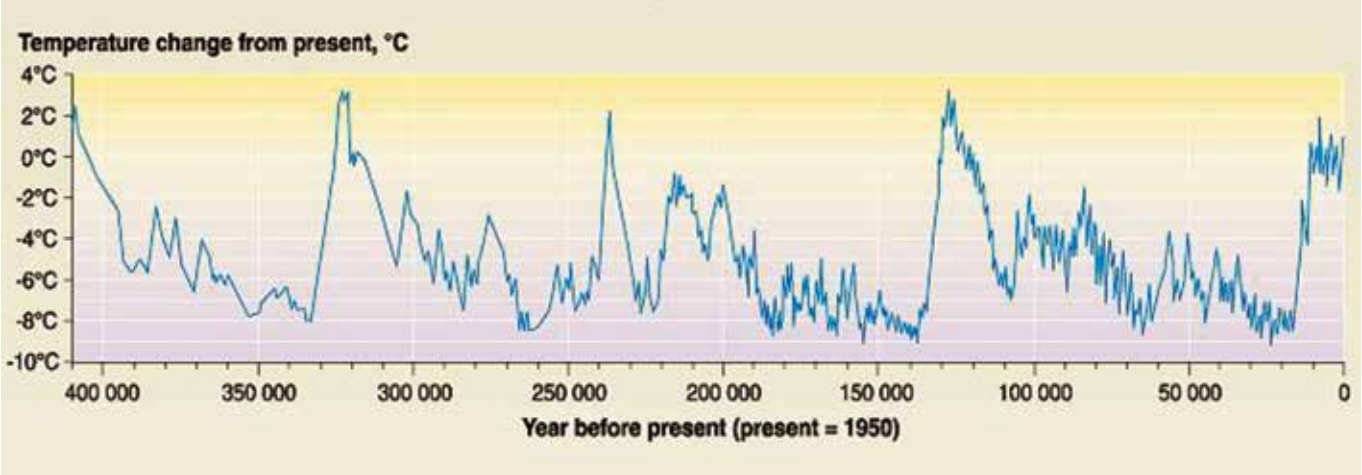
Category	Maximum sustained wind speed
Five	≥ 252 km/h
Four	209–251 km/h
Three	178–208 km/h
Two	154–177 km/h
One	119–153 km/h
Tropical storm	63–118 km/h
Tropical depression	≤ 62 km/h

(Source: Creative Commons Attribution – ShareAlike License)

Figure 1

Typhoons in Pacific 2013 season

The following resource relates to Question 2.

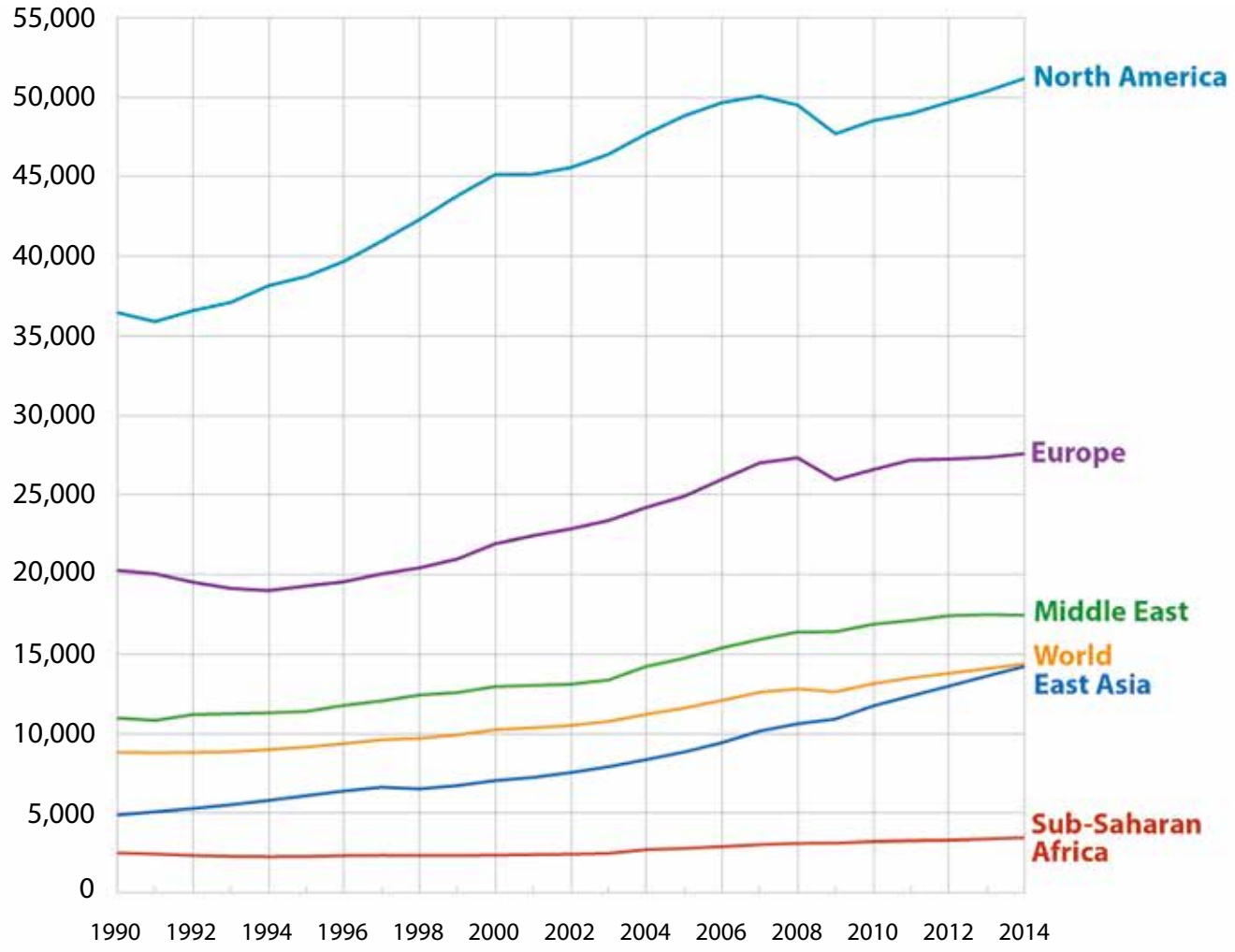


(Source: NASA graph by Robert Simmon, based on data from Jouzel et al., 2007)

Figure 2

Temperature in the atmosphere over the past 400 000 years

The following resource relates to Question 3.

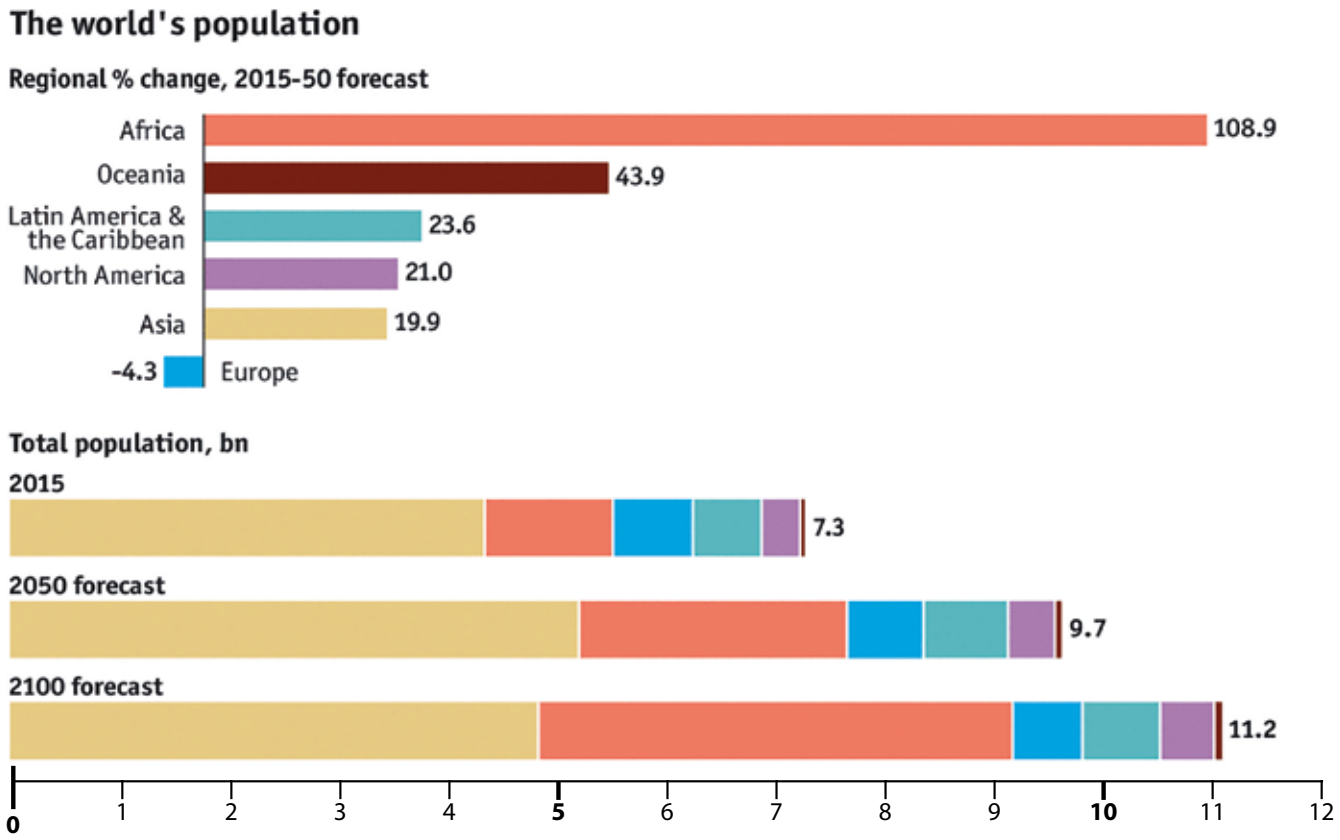


(Source: © 2014 Google)

Figure 3

Changes in GDP per capita (PPP) between 1990 and 2014 for selected global regions

The following resource relates to Question 4.



(Source: taken from http://www.economist.com/blogs/graphicdetail/2015/08/daily-chart-growth-areas)

Figure 4

Future changes in regional populations

SECTION B

The following resource relates to Question 5.

Amber Rudd,
UK Government Secretary of State for Energy and Climate Change

The British government is determined to reduce emissions in the most cost-effective way whilst keeping bills as low as possible. The renewables industry needs to survive without subsidies.

Independent 26.9.2015

(Source: © Crown copyright)

Ban Ki-moon,
Secretary-General of the United Nations

The negotiation pace is far too slow. Investments in the fossil fuel-based economy should be reduced and moved to renewable energy.

The human, environmental and financial cost of climate change is fast becoming unbearable.

We have never faced such a challenge.

(Source: 'Opening remarks at 2014 Climate Summit', Secretary-General Ban Ki-moon, General Assembly, 23 September 2014 © United Nations)

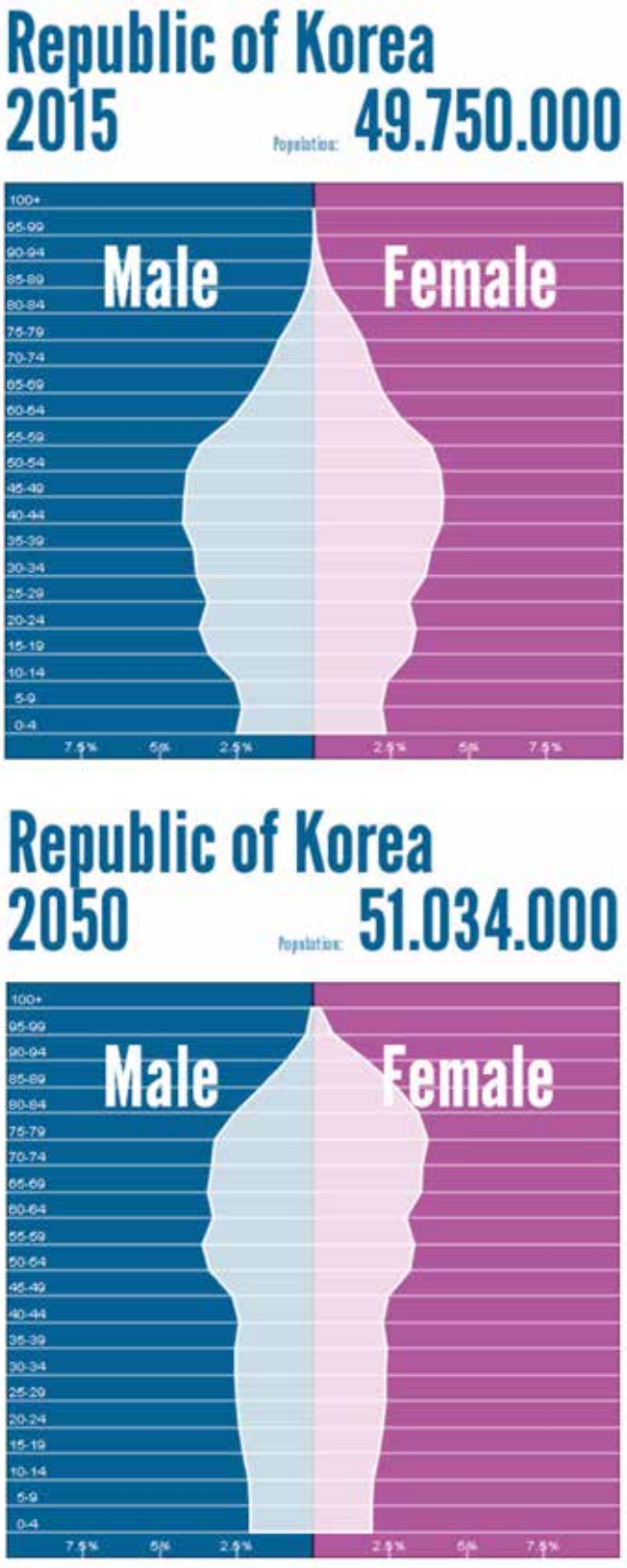
Moses Musana,
Teacher in Uganda

Wood and charcoal are the cheapest and most easily accessed sources of energy available in most African countries. Most people are poor and therefore cannot afford to use hydroelectric power even if there is a local supply. The Ugandan Government has laws for environmental protection and sustainability but they are not fully implemented.

Figure 5

Contrasting views about mitigating climate change

The following resource relates to Question 6.



(Source: taken from http://populationpyramid.net/republic-of-korea)

Figure 6

Population data for South Korea in 2015 and 2050

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Unit 1 – Mark scheme

Question number	Answer	Mark
1(a)(i)	**AO1 (1 mark)** • Saffir-Simpson (1)	**(1)**

Question number	Answer	Mark
1(a)(ii)	**AO2 (2 marks)** Award **1** mark for each description of the distribution of typhoons. Maximum **2** marks. • Storms occur over the ocean/Pacific Ocean/western Pacific Ocean (1) • Between approximately 5–25° N/north of the Equator (1)	**(2)**

Question number	Answer	Mark
1(a)(iii)	**AO1 (1 mark)/AO2 (1 mark)** • The map shows that the area is between the Tropics and so will have warm ocean temperatures (1) (AO2), so storms gain energy for convection (1) (AO1) • Coriolis effect active/away from Equator/between approx. 5–25° N (1) (AO2), so generates anti-clockwise rotating storms (1) (AO1)	**(2)**

Question number	Answer	Mark
1(b)	**AO1 (4 marks)** Award **1** mark for identifying a reason why the impact of tropical storms will vary and a further expansion mark, up to a maximum of **2** marks each. • Some storms have higher magnitude (1) so wind speeds/storm surges/rainfall are more damaging and reach further inland (1) • Some storms rapidly lose intensity over land/occur at sea (1) so reduced wind speeds/storm surges/rainfall (1) • Some areas are low lying/below 5 m (1) so the impacts spread further inland (1)	**(4)**

Question number	Indicative content	Mark
1(c)	**AO1 (6 marks)** **Marking instructions** Markers must apply the descriptors in line with the general marking guidance and the qualities outlined in the levels-based mark scheme below. **Indicative content guidance** The indicative content below is not prescriptive and candidates are not required to include all of it. Other relevant material not suggested below must also be credited. Relevant points may include: Social costs (deaths/injuries) are falling because: • there are more predictions, warnings, training, medical skills, technology so people can escape/fewer deaths • improved adaptations such as sea walls so more time to escape/find safety. Economic costs rising due to: • population growth, so more people are at risk, rise in living standards, living in vulnerable locations • climate change is occurring, so there are rising numbers of more severe hazards (particularly storms/floods). Both social and economic costs should be covered in the answer for full marks, but do not need to be balanced.	**(6)**

Level	Mark	Descriptor
	0	No rewardable material.
Level 1	**1–2**	• Demonstrates isolated elements of geographical knowledge and understanding, some of which may be inaccurate or irrelevant. (AO1) • Understanding addresses a narrow range of geographical ideas, which lack detail. (AO1)

Level	Mark	Descriptor
Level 2	**3–4**	• Demonstrates geographical knowledge and understanding, which is mostly relevant and may include some inaccuracies. (AO1) • Understanding addresses a range of geographical ideas, which are not fully detailed and/or developed. (AO1)
Level 3	**5–6**	• Demonstrates accurate and relevant geographical knowledge and understanding throughout. (AO1) • Understanding addresses a broad range of geographical ideas, which are detailed and fully developed. (AO1)

Question number	Answer	Mark
2(a)(i)	**AO1 (1 mark)** • Ice cores/pollen analysis/geological record (1) Do not allow tree rings or glacier retreat (not long term).	**(1)**

Question number	Answer	Mark
2(a)(ii)	**AO2 (2 marks)** Award **1** mark for each temperature trend. Maximum **2** marks. • Temperatures have fluctuated between 2°C and 8°C (1) • Temperatures have been colder for much for the past 400 000 years (1) • There have been cycles of warmer then colder temperatures lasting about 60 000–110 000 years (1)	**(2)**

Question number	Answer	Mark
2(a)(iii)	**AO1 (2 marks)** Award **1** mark for identifying a reason why the temperature has changed and a further expansion mark, up to a maximum of **2** marks. Temperatures changed by: • Earth's orbit/eccentricity (1) moves from circle to elliptical and back over 100 000 years (1) • Earth's tilt/obliquity (1) alters from 24° to 21° over 24 000 year cycle (1) • Earth's axis wobbles/Axial precession (1) alters over 41 000 year cycle (1). Do not allow volcanic eruptions (unlikely to occur at these regular intervals).	**(2)**

Question number	Answer	Mark
2(b)	**AO1 (4 marks)** Award **1** mark for identifying a physical feedback mechanism and a further expansion mark, up to a maximum of **2** marks each. • Albedo effect/differential reflectivity of ice and ocean water (1) so leads to more ice melting (1) • Warmer atmosphere can absorb more water vapour (1) resulting in more heat being held in as water vapour is a potent greenhouse gas (1) • Methane released by melting permafrost/frozen hydrates (1) so allows powerful greenhouse gases to escape to add to greenhouse effect (1) Accept explanations of other appropriate feedback mechanisms. Question asks for "reinforces" so do not allow changes that reduce warming.	**(4)**

Question number	Indicative content	Mark
2(c)	**AO1 (6 marks)** **Marking instructions** Markers must apply the descriptors in line with the general marking guidance and the qualities outlined in the levels-based mark scheme below. **Indicative content guidance** The indicative content below is not prescriptive and candidates are not required to include all of it. Other relevant material not suggested below must also be credited. Relevant points may include: • accuracy of past climate records is disputed because earlier records are often based on proxies such as diaries/paintings/grape harvests etc. which may have other interpretations • pollen and tree ring data is questioned because it may be contaminated by disease or insect attack, and is very localised • IT technology and precision are improving over time so comparison with past records cannot be made with confidence • likewise, siting of weather stations has not always been appropriate, which undermines confidence.	**(6)**

Level	Mark	Descriptor
	0	No rewardable material.
Level 1	**1–2**	• Demonstrates isolated elements of geographical knowledge and understanding, some of which may be inaccurate or irrelevant. (AO1) • Understanding addresses a narrow range of geographical ideas, which lack detail. (AO1)
Level 2	**3–4**	• Demonstrates geographical knowledge and understanding, which is mostly relevant and may include some inaccuracies. (AO1) • Understanding addresses a range of geographical ideas, which are not fully detailed and/or developed. (AO1)

Level	Mark	Descriptor
Level 3	**5–6**	• Demonstrates accurate and relevant geographical knowledge and understanding throughout. (AO1) • Understanding addresses a broad range of geographical ideas, which are detailed and fully developed. (AO1)

Question number	Answer	Mark
3(a)(i)	**AO2 (1 mark)** • **D** The gap between the world and East Asia is decreasing (1)	**(1)**

Question number	Answer	Mark
3(a)(ii)	**AO1 (2 marks)** Award **1** mark per comparison of regions (both regions must be mentioned) and a further mark for accurate use of data to support comparison. • World GDP per capita (PPP) has grown steadily but Sub-Saharan Africa has seen only a very small increase (1). Supported by accurate use of data (1)	**(2)**

Question number	Answer	Mark
3(a)(iii)	**AO2 (1 mark)** • North America (1)	**(1)**

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Question number	Answer	Mark
3(a)(iv)	**AO1 (2 marks)** Award **1** mark for identifying a reason for a change in East Asia's GDP per capita (PPP) and a further expansion mark, up to a maximum of **2** marks. • Low wages/skilled work force (1) so has encouraged outsourcing by TNCs for manufacturing (1) • Improved transport links (air, containership) (1) so allows growth of trade (1) • Investment in infrastructure/education (1) so has enabled shift into more profitable business (1) • More flexible trade rules (1) have enabled more freedom to international business (1) Accept any other appropriate reasons.	**(2)**

Question number	Answer	Mark
3(b)	**AO1 (3 marks)** Award **1** mark for identifying a way national governments encourage globalisation and a further **2** expansion marks, up to a maximum of **3** marks. National governments encourage globalisation by: • membership of trade blocs/other international organisations (1) which facilitate trade (1) so encouraging movement of people/ideas/money (1) • allowing migration (economic/refugees) (1) so builds links, whether past (post-colonial) or present (1) and sending of remittances/cultural exchange (1). Accept any other appropriate ways national governments encourage globalisation.	**(3)**

Question number	Indicative content
3(c)	**AO1 (6 marks)** **Marking instructions** Markers must apply the descriptors in line with the general marking guidance and the qualities outlined in the levels-based mark scheme below. **Indicative content guidance** The indicative content below is not prescriptive and candidates are not required to include all of it. Other relevant material not suggested below must also be credited. Relevant points may include: • consequences for workers can be positive: job opportunities with TNCs which invest, e.g. Pfizer in Cambridge, which result in higher wages, training, research and development • tax revenues increase so multiplier effect benefits workers: increased government spending in education/infrastructure/housing • or negative: jobs outsourced to locations with lower cost/lower health and safety standards so unemployment rises • international immigration keeps wages lower and reduces job availability. Money may leave country as wages are repatriated, reducing local spending in shops/services. De-multiplier effect.

Level	Mark	Descriptor
	0	No rewardable material.
Level 1	**1–2**	• Demonstrates isolated elements of geographical knowledge and understanding, some of which may be inaccurate or irrelevant. (AO1) • Understanding addresses a narrow range of geographical ideas, which lack detail. (AO1)
Level 2	**3–4**	• Demonstrates geographical knowledge and understanding, which is mostly relevant and may include some inaccuracies. (AO1) • Understanding addresses a range of geographical ideas, which are not fully detailed and/or developed. (AO1)

Level	Mark	Descriptor
Level 3	**5–6**	• Demonstrates accurate and relevant geographical knowledge and understanding throughout. (AO1) • Understanding addresses a broad range of geographical ideas, which are detailed and fully developed. (AO1)

Question number	Answer	Mark
4(a)(i)	**AO2 (1 mark)** • Asia (1)	**(1)**

Question number	Answer	Mark
4(a)(ii)	**AO2 (1 mark)** • **D** The rate of population growth is fastest in Africa (1)	**(1)**

Question number	Answer	Mark
4(a)(iii)	**AO1 (4 marks)** Award **1** mark for identifying a reason for rapid population growth and a further expansion mark, up to a maximum of **2** marks each. • Families have large numbers of children (1) to work/fetch water/care for older people (1) • Limited availability of contraception/limited education of girls (1) so fertility rates are high (1) • Increased vaccination programmes/medical care (1) so longer life expectancy/decreased child mortality (1) Accept any other appropriate reasons.	**(4)**

Question number	Answer	Mark
4(b)	**AO1 (3 marks)** Award **1** mark for identifying a way technology can help reduce pressure on energy resources and a further **2** expansion marks, up to a maximum of **3** marks. Pressure on energy resources reduced by: • development of renewable energy (1) uses infinite supplies of wind/sun (1) so reduces use of fossil fuels (1) • development of nuclear technology (1) has increased availability of electricity (1) so reduces the need for electricity generating power stations (1) • more efficient car engines/hybrids (1) use electricity generated by renewables (1) so reduces use of petrol/diesel. (1)	**(3)**

Question number	Indicative content
4(c)	**AO1 (6 marks)** **Marking instructions** Markers must apply the descriptors in line with the general marking guidance and the qualities outlined in the levels-based mark scheme below. **Indicative content guidance** The indicative content below is not prescriptive and candidates are not required to include all of it. Other relevant material not suggested below must also be credited. Relevant points may include: Malthus's view was that whilst population increases geometrically, resources (food) only grow arithmetically. Not correct: • massive increases in global population have occurred but the war, disease and famine predicted by Malthus have not always resulted • increased food production has occurred due to mechanisation/use of fertilisers so food shortages have not occurred. However: • food riots linked to shortages and high prices suggest overpopulation is occurring in some areas • global warming/water shortages are indications of overuse of resources as Malthus predicted. Credit extended points and use of examples.

Level	Mark	Descriptor
	0	No rewardable material.
Level 1	**1–2**	• Demonstrates isolated elements of geographical knowledge and understanding, some of which may be inaccurate or irrelevant. (AO1) • Understanding addresses a narrow range of geographical ideas, which lack detail. (AO1)

Level	Mark	Descriptor
Level 2	**3–4**	• Demonstrates geographical knowledge and understanding, which is mostly relevant and may include some inaccuracies. (AO1) • Understanding addresses a range of geographical ideas, which are not fully detailed and/or developed. (AO1)
Level 3	**5–6**	• Demonstrates accurate and relevant geographical knowledge and understanding throughout. (AO1) • Understanding addresses a broad range of geographical ideas, which are detailed and fully developed. (AO1)

Question number	Indicative content
5(a)	**AO1 (5 marks)/AO2 (5 marks)** **Marking instructions** Markers must apply the descriptors in line with the general marking guidance and the qualities outlined in the levels-based mark scheme below. **Indicative content guidance** The indicative content below is not prescriptive and candidates are not required to include all of it. Other relevant material not suggested below must also be credited. Relevant points may include: AO1: • opinions about mitigation vary due to concerns about increased costs and loss of profits if mitigation methods are implemented • opinions about mitigation vary because some take a longer-term view than others • opinions about mitigation vary due to experience of the effects of climate change. AO2: • some MEDC governments such as the UK prioritise short-term political expediency such as reducing electricity bills over long-term goals that mitigate climate change • as Secretary-General of the United Nations, Ban Ki-moon takes a holistic long-term view about the importance of mitigation, regarding economic costs of renewable energy as unavoidable given the scale of human impacts • poor people in Uganda have no option (particularly the poorest in rural and urban areas) so continue to burn wood/charcoal.

Level	Mark	Descriptor
	0	No rewardable material.
Level 1	**1–4**	• Demonstrates isolated elements of geographical knowledge. (AO1) • Demonstrates isolated elements of geographical understanding, some of which may be inaccurate. (AO1) • Applies knowledge and understanding to geographical information/ideas, making limited logical connections/relationships. (AO2) • Applies knowledge and understanding to geographical information/ideas to produce an interpretation that is not relevant and/or supported by evidence. (AO2)
Level 2	**5-7**	• Demonstrates geographical knowledge, which is mostly relevant and may include some inaccuracies. (AO1) • Demonstrates geographical understanding, which is mostly relevant and may include some inaccuracies. (AO1) • Applies knowledge and understanding to geographical information/ideas logically, making some relevant connections/relationships. (AO2) • Applies knowledge and understanding to geographical information/ideas to produce a partial but coherent interpretation that is mostly relevant and supported by evidence. (AO2)
Level 3	**8-10**	• Demonstrates accurate and relevant geographical knowledge throughout. (AO1) • Demonstrates accurate and relevant geographical understanding throughout. (AO1) • Applies knowledge and understanding to geographical information/ideas logically, making relevant connections/relationships. (AO2) • Applies knowledge and understanding to geographical information/ideas to produce a full and coherent interpretation that is relevant and supported by evidence. (AO2)

Question number	Indicative content
5(b)	**AO1 (5 marks)/AO2 (15 marks)** **Marking instructions** Markers must apply the descriptors in line with the general marking guidance and the qualities outlined in the levels-based mark scheme below. Responses that demonstrate **only** AO1 without any AO2 should be awarded marks as follows: • Level 1 AO1 performance: 1 mark • Level 2 AO1 performance: 2 marks • Level 3 AO1 performance: 3 marks • Level 4 AO1 performance: 4 marks **Indicative content guidance** The indicative content below is not prescriptive and candidates are not required to include all of it. Other relevant material not suggested below must also be credited. Relevant points may include: AO1: • future projections suggest that global temperatures and ice melt will continue to change • further increases in global warming are likely but the rate of change and the amount of change are disputed. AO2: • one of the greatest uncertainties is future population growth, which may continue at present rates, slow or possibly increase which will have the greatest impacts on global warming • a further major issue concerns future economic growth, as recent years have seen a global recession, and a slowdown continues in China. Progress in some African and Asian countries suggest consumerism will grow rapidly with greater use of energy which will exacerbate carbon emissions • crucially, continued efforts at mitigation are uncertain, both in the developed and developing world. For example a substantial shift to renewables and lower carbon alternative fuels, alongside improved carbon capture strategies has long been discussed but commitment to implement decisions is slow • future projections are also challenging, as records of past climate change are not accurate on a global scale. They tend to be localised (e.g. ice cores in Vostok, Antarctica) so comparison and predictions are difficult

Question number	Indicative content
5(b)	AO2 (continued): • furthermore, the relationship between CO2 levels and temperature, and the role of ocean carbon sinks and feedback mechanisms are not fully understood • time lag between reducing emissions and effects on global warming is not agreed so projections are unlikely to be accurate in the near future.

Level	Mark	Descriptor
	0	No rewardable material.
Level 1	**1–5**	• Demonstrates isolated elements of geographical knowledge and understanding, some of which may be inaccurate or irrelevant. (AO1) • Applies knowledge and understanding of geographical ideas, making limited and rarely logical connections/relationships. (AO2) • Applies knowledge and understanding of geographical information/ideas to produce an interpretation with limited coherence and support from evidence. (AO2) • Applies knowledge and understanding of geographical information/ideas to produce an unsupported or generic conclusion, drawn from an argument that is unbalanced or lacks coherence. (AO2)
Level 2	**6–10**	• Demonstrates geographical knowledge and understanding, which is occasionally relevant and may include some inaccuracies. (AO1) • Applies knowledge and understanding of geographical information/ideas with limited but logical connections/relationships. (AO2) • Applies knowledge and understanding of geographical ideas in order to produce a partial interpretation that is supported by some evidence but has limited coherence. (AO2) • Applies knowledge and understanding of geographical information/ideas to come to a conclusion, partially supported by an unbalanced argument with limited coherence. (AO2)

Level	Mark	Descriptor
Level 3	**11-15**	• Demonstrates geographical knowledge and understanding, which is mostly relevant and accurate. (AO1) • Applies knowledge and understanding of geographical information/ideas to find some logical and relevant connections/relationships. (AO2) • Applies knowledge and understanding of geographical ideas in order to produce a partial but coherent interpretation that is supported by some evidence. (AO2) • Applies knowledge and understanding of geographical information/ideas to come to a conclusion, largely supported by an argument that may be unbalanced or partially coherent. (AO2)
Level 4	**16-20**	• Demonstrates accurate and relevant geographical knowledge and understanding throughout. (AO1) • Applies knowledge and understanding of geographical information/ideas to find fully logical and relevant connections/relationships. (AO2) • Applies knowledge and understanding of geographical information/ideas to produce a full and coherent interpretation that is supported by evidence. (AO2) • Applies knowledge and understanding of geographical information/ideas to come to a rational, substantiated conclusion, fully supported by a balanced argument that is drawn together coherently. (AO2)

Question number	Indicative content
6(a)	**AO1 (5 marks)/AO2 (5 marks)** The exact % change in population age groups is difficult to determine, so accept close approximations (within 5%). AO1: • reductions in birth-rate caused by changing role of women, availability of contraception, education, industrialisation • increases in life expectancy due to availability of healthcare for all, safer workplaces, programmed disease control, improved sanitation. AO2: • under-15 population has reduced from 15% (7.46 million in 2015) to 12% (6.12 million in 2050), a net reduction of 1.34 million. Falling numbers of young people • over-60 population has increased from 18% (8.95 million in 2015) to 30% (15.3 million in 2050), an increase of 6.35 million. These changes are likely to be linked to improved life expectancy from sanitation and clean water changes, medical advances, reduction in smoking. Population has therefore grown from 49.7 million to 51.0 million. No prior knowledge of South Korea is required.

Level	Mark	Descriptor
	0	No rewardable material.
Level 1	**1–4**	• Demonstrates isolated elements of geographical knowledge. (AO1) • Demonstrates isolated elements of geographical understanding, some of which may be inaccurate. (AO1) • Applies knowledge and understanding to geographical information/ideas, making limited logical connections/relationships. (AO2) • Applies knowledge and understanding to geographical information/ideas to produce an interpretation that is not relevant and/or supported by evidence. (AO2)

Level	Mark	Descriptor
Level 2	**5-7**	• Demonstrates geographical knowledge, which is mostly relevant and may include some inaccuracies. (AO1) • Demonstrates geographical understanding, which is mostly relevant and may include some inaccuracies. (AO1) • Applies knowledge and understanding to geographical information/ideas logically, making some relevant connections/relationships. (AO2) • Applies knowledge and understanding to geographical information/ideas to produce a partial but coherent interpretation that is mostly relevant and supported by evidence. (AO2)
Level 3	**8-10**	• Demonstrates accurate and relevant geographical knowledge throughout. (AO1) • Demonstrates accurate and relevant geographical understanding throughout. (AO1) • Applies knowledge and understanding to geographical information/ideas logically, making relevant connections/relationships. (AO2) • Applies knowledge and understanding to geographical information/ideas to produce a full and coherent interpretation that is relevant and supported by evidence. (AO2)

Question number	Indicative content
6(b)	**AO1 (5 marks)/AO2 (15 marks)** **Marking instructions** Markers must apply the descriptors in line with the general marking guidance and the qualities outlined in the levels-based mark scheme below. Responses that demonstrate **only** AO1 without any AO2 should be awarded marks as follows: • Level 1 AO1 performance: 1 mark • Level 2 AO1 performance: 2 marks • Level 3 AO1 performance: 3 marks • Level 4 AO1 performance: 4 marks **Indicative content guidance** The indicative content below is not prescriptive and candidates are not required to include all of it. Other relevant material not suggested below must also be credited. Relevant points may include: AO1: • attitudes to migration vary for economic and social reasons (jobs employers/wages/promotion as well as access to secondary or further education/health) • attitudes vary for political reasons and cultural reasons (freedom of speech, pressure from voters as well as elite often welcomed by all, history of country may influence attitude). AO2: • the most important reason for different attitudes is likely to be the contrast between source and host countries. They are likely to have differing attitudes (positive and negative) for a combination of the above reasons • source countries are likely to be seen as benefiting economically from remittances and training opportunities • host countries are likely to be seen to be benefiting economically from a cheap and/or skilled labour force who fill gaps in agriculture, industry and public services • however, source countries may experience social losses, as they lose skilled young labour, and suffer family separation and possibly a falling birth rate • however, host countries suffer negative social consequences due to pressure on housing, education and healthcare, which may result in political pressure on government to limit numbers entering the country

Question number	Indicative content
6(b)	AO2 (continued): • attitudes may vary depending on whether migrants are refugees or moving due to economic or social reasons, and whether the movement is permanent or temporary • past history of migration may influence attitudes, and enclaves may exist already within a country.

Level	Mark	Descriptor
	0	No rewardable material.
Level 1	**1–5**	• Demonstrates isolated elements of geographical knowledge and understanding, some of which may be inaccurate or irrelevant. (AO1) • Applies knowledge and understanding of geographical ideas, making limited and rarely logical connections/relationships. (AO2) • Applies knowledge and understanding of geographical information/ideas to produce an interpretation with limited coherence and support from evidence. (AO2) • Applies knowledge and understanding of geographical information/ideas to produce an unsupported or generic conclusion, drawn from an argument that is unbalanced or lacks coherence. (AO2)
Level 2	**6–10**	• Demonstrates geographical knowledge and understanding, which is occasionally relevant and may include some inaccuracies. (AO1) • Applies knowledge and understanding of geographical information/ideas with limited but logical connections/relationships. (AO2) • Applies knowledge and understanding of geographical ideas in order to produce a partial interpretation that is supported by some evidence but has limited coherence. (AO2) • Applies knowledge and understanding of geographical information/ideas to come to a conclusion, partially supported by an unbalanced argument with limited coherence. (AO2)

Level	Mark	Descriptor
Level 3	**11-15**	• Demonstrates geographical knowledge and understanding, which is mostly relevant and accurate. (AO1) • Applies knowledge and understanding of geographical information/ideas to find some logical and relevant connections/relationships. (AO2) • Applies knowledge and understanding of geographical ideas in order to produce a partial but coherent interpretation that is supported by some evidence. (AO2) • Applies knowledge and understanding of geographical information/ideas to come to a conclusion, largely supported by an argument that may be unbalanced or partially coherent. (AO2)
Level 4	**16-20**	• Demonstrates accurate and relevant geographical knowledge and understanding throughout. (AO1) • Applies knowledge and understanding of geographical information/ideas to find fully logical and relevant connections/relationships. (AO2) • Applies knowledge and understanding of geographical information/ideas to produce a full and coherent interpretation that is supported by evidence. (AO2) • Applies knowledge and understanding of geographical information/ideas to come to a rational, substantiated conclusion, fully supported by a balanced argument that is drawn together coherently. (AO2)

Write your name here

Surname	Other names

Pearson Edexcel
International
Advanced Level

Centre Number | | | | | |

Candidate Number | | | | |

Geography

International Advanced Subsidiary/Advanced Level
Unit 2: Geographical Investigations

Sample assessment material for first teaching
September 2016
Time: 1 hour 30 minutes

Paper Reference
WGE02/01

You must have:
Resource booklet (enclosed), calculator.

Total Marks

Candidates may use any calculator permitted by Pearson regulations.

Instructions

- Use **black** ink or ball-point pen.
- **Fill in the boxes** at the top of this page with your name, centre number and candidate number.
- Answer **all** questions in Sections A and B.
- In Section C answer **either** Question 4 **or** Question 5.
- Answer the questions in the spaces provided
  – *there may be more space than you need.*

Information

- The total mark for this paper is 60.
- The marks for **each** question are shown in brackets
  – *use this as a guide as to how much time to spend on each question.*

Advice

- Read each question carefully before you start to answer it.
- Check your answers if you have time at the end.

Turn over ▶

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SECTION A

You must use the Resource booklet.

Answer ALL questions in this section. Write your answers in the spaces provided.

Crowded Coasts

1 Study Figure 1 in the Resource booklet.

(a) (i) Identify the features labelled on Figure 1.

(2)

A .....

B .....

(ii) Explain **one** physical process that has formed the rock arch in Figure 1.

(2)

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(b) Evaluate the success of **two** policies designed to be sustainable used to manage coastlines.

(8)

(Total for Question 1 = 12 marks)

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2 Study Figure 2 in the Resource booklet.

(a) (i) Describe **two** characteristics of the settlement in area A.

(2)

(ii) Explain **one** socio-economic process that has contributed to the housing challenges in urban areas of developing countries, such as those shown in Figure 2.

(2)

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(b) Examine why the social and environmental problems associated with transport are greater in some urban environments than others.

(8)

(Total for Question 2 = 12 marks)

TOTAL FOR SECTION A = 24 MARKS

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SECTION B

COMPULSORY FIELDWORK QUESTION

Answer ALL questions in this section. Write your answers in the spaces provided.

3 You have undertaken geography fieldwork as part of the course.
Use this experience to answer Question 3.

State the research question of your fieldwork investigation.

(a) Explain the main purpose of your fieldwork investigation.

(4)

(b) Explain why you chose **one** particular method to analyse your fieldwork data.

(2)

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(c) Summarise the main results and conclusions from your fieldwork investigation.

(6)

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(d) Evaluate your route to enquiry, from the initial research question design through to the development of your conclusions.

(12)

(Total for Question 3 = 24 marks)

TOTAL FOR SECTION B = 24 MARKS

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SECTION C

FIELDWORK OPTION QUESTION

You must use the Resource booklet.

Answer ONE question in this section – EITHER Question 4 OR Question 5.
Write your answers in the spaces provided.

Investigating Crowded Coasts

4 (a) Study Figures 3a and 3b in the Resource booklet.

A group of students wanted to investigate a sand dune as part of a study into coastal ecosystems and environments.

They started their investigation by trying to select appropriate secondary information that might help them understand the geographical context more fully.

(i) Describe how they might use the information in Figures 3a and 3b to help **plan** their investigation.

(4)

(ii) Explain **one** problem associated with secondary data, such as that shown in Figure 3a.

(3)

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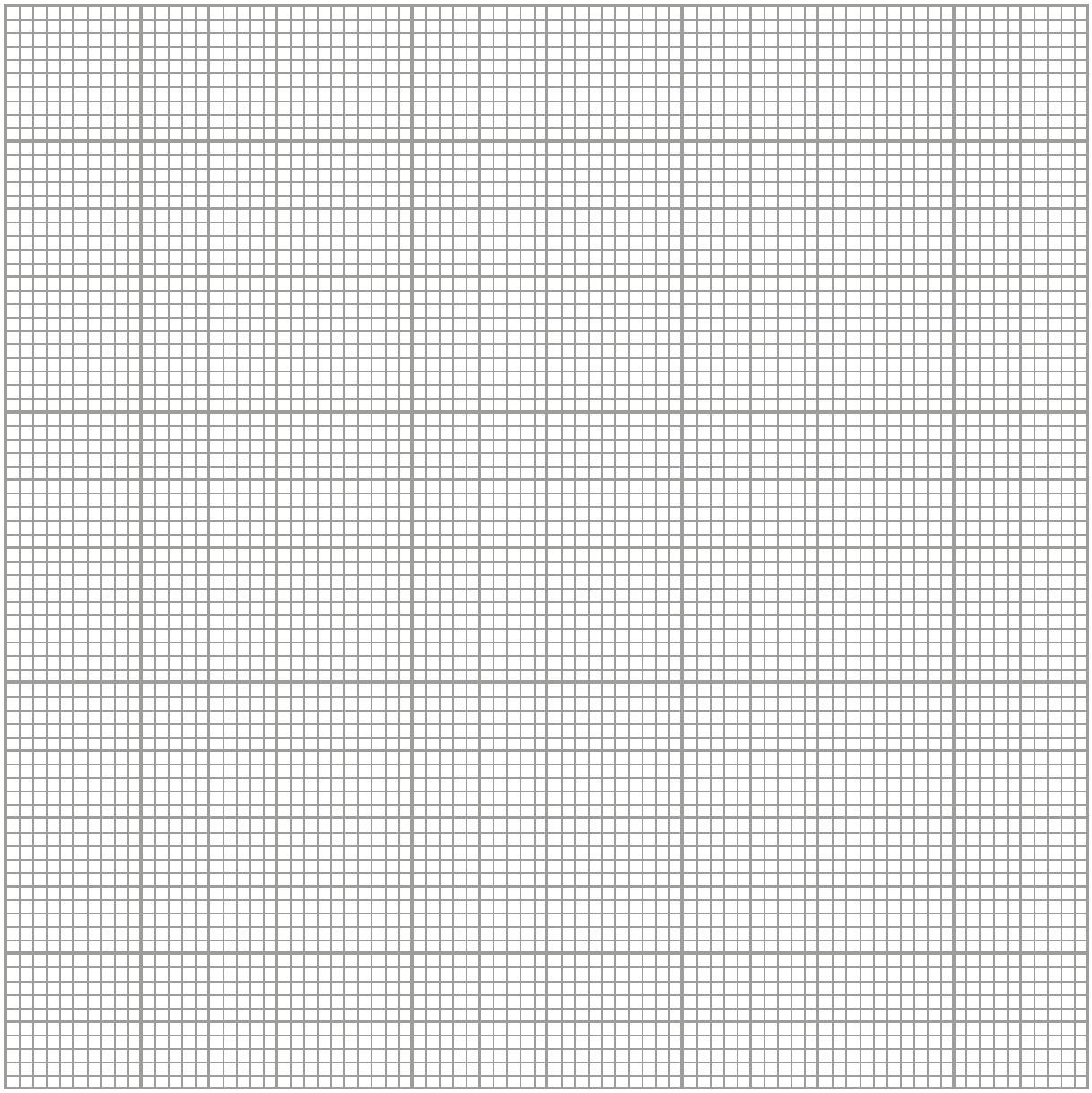
(b) Study Figure 3c in the Resource booklet.

A group of students have undertaken a questionnaire survey of visitors to a local beach near to their school, in order to better understand activities and development at the coast.

The students will present their information as a **divided bar chart**.

(i) Using the results from Figure 3c, sketch the bars for categories 15–20 and 51–65, in the space below.

(2)



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(ii) Explain **one** reason why the questionnaire results shown in Figure 3c may be unreliable.

(3)

(Total for Question 4 = 12 marks)

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5 (a) Study Figures 4a and 4b in the Resource booklet.

A group of students wanted to study air pollution levels in their local city as part of a study into urban transport issues.

They started their investigation by trying to select appropriate secondary information that might help them understand the geographical context more fully.

(i) Describe how they might use the information in Figures 4a and 4b to help **plan** their investigation.

(4)

(ii) Explain **one** problem associated with secondary data, such as that shown in Figure 4a.

(3)

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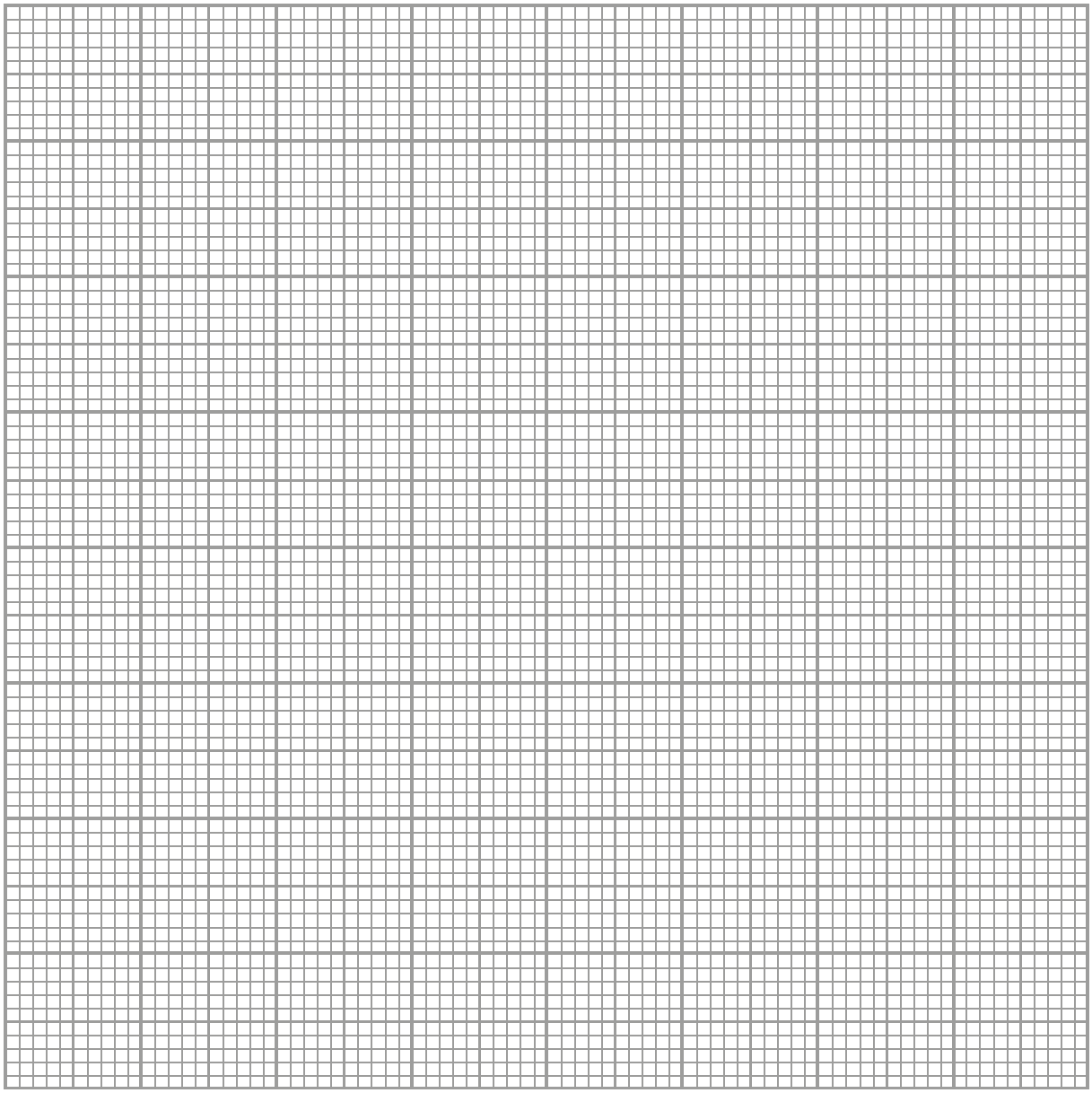
(b) Study Figure 4c in the Resource booklet.

A group of students have undertaken a questionnaire survey of visitors to Hong Kong, in order to better understand the impacts of urban regeneration.

The students will present their information as a **divided bar chart**.

(i) Using the results from Figure 4c, sketch the bars for categories 15–20 and 51–65, in the space below.

(2)



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(ii) Explain **one** reason why the questionnaire results shown in Figure 4c may be unreliable.

(3)

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(Total for Question 5 = 12 marks)

TOTAL FOR SECTION C = 12 MARKS
TOTAL FOR PAPER = 60 MARKS

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Pearson Edexcel
International Advanced Level

Geography
International Advanced Subsidiary/Advanced Level
Unit 2: Geographical Investigations

Sample assessment material for first teaching September 2016
Resource booklet

Paper Reference
WGE02/01

Do not return this Resource booklet with the question paper.

Turn over ▶

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SECTION A

The following resource relates to Question 1.

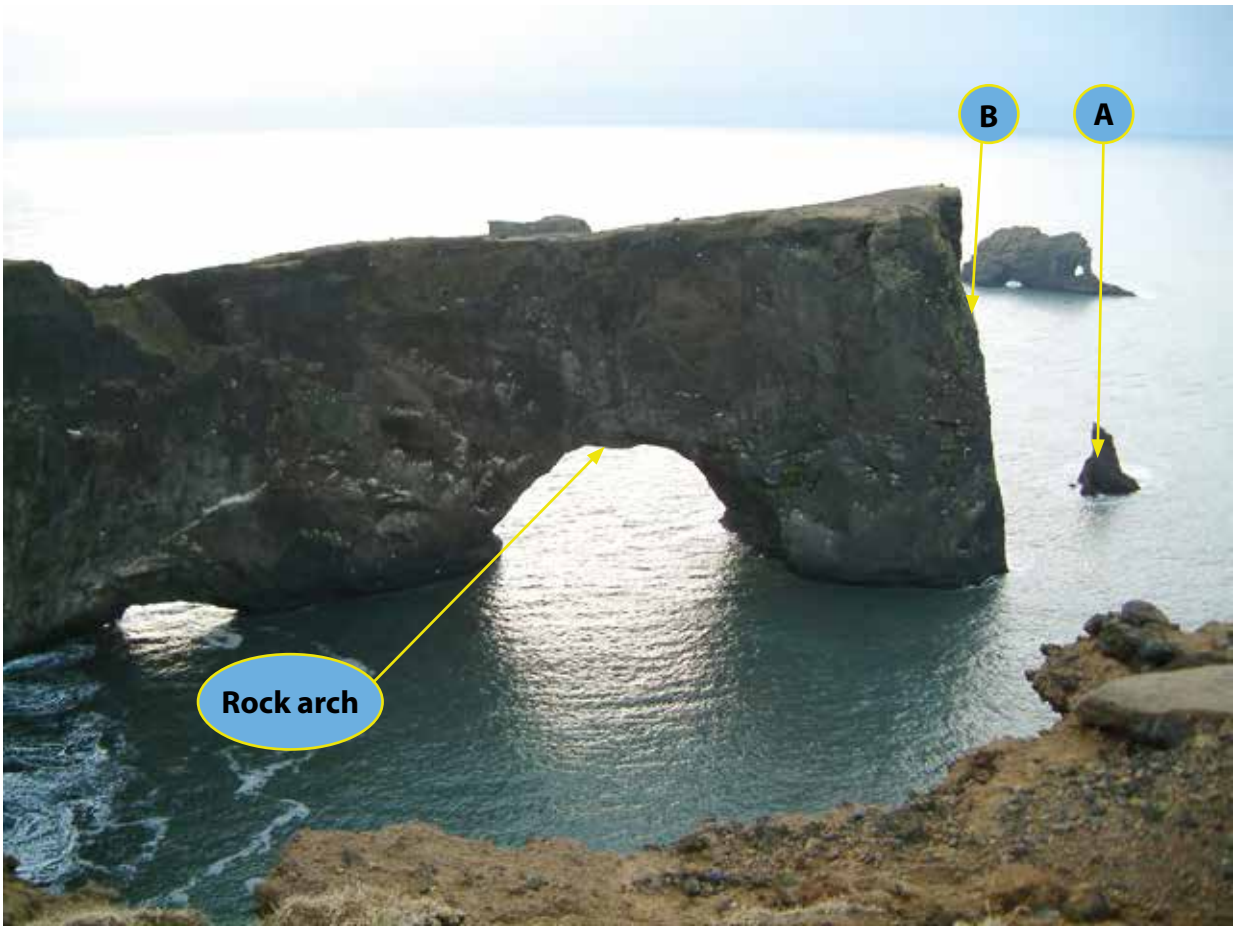


Figure 1

A headland with rock arches, southern coastline of Iceland

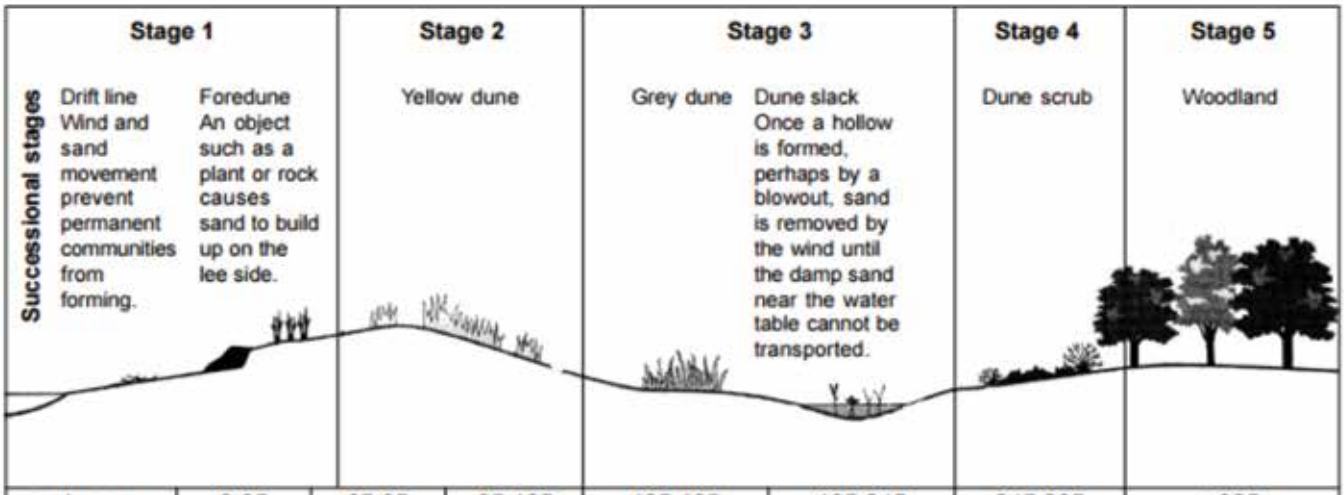
The following resource relates to Question 2.

Figure 2

Housing challenges, Nairobi, Kenya

SECTION C

The following resources relate to Question 4a.



age/years	0-65	65-95	95-125	125-185	185-245	245-365	>365
soil pH	6.6-7.0	4.8-5.5	3.9-4.6	3.9-4.5	3.9-4.5	3.6-4.5	4.5
colour of soil	Yellow			Yellow/Grey		Grey	Brown
humus (%)	0.2	0.6	2.5	3.2	8.2	13.5	>40

Figure 3a

Extract from a published resource showing a typical sand dune ecosystem

Figure 3b

A coastal ecosystem near Barcelona, Spain

The following resource relates to Question 4b.

	Age					
Activity	**15–20**	**21–35**	**36–50**	**51–65**	**>65**	**Totals**
Beach sports	2	8	32	42	8	**92**
Leisure/ fitness/ walking	1	5	15	*	6	**39**
Swimming	*	5	0	0	10	**17**
Dog walking	1	3	8	9	6	**27**
Totals	**6**	**21**	**55**	**63**	**30**	**175**

Figure 3c

An extract from a student's activity survey of people (by age) visiting a coastal holiday resort in Florida, August 15, 2015

*** A number must be entered in order to complete question 4b(i)**

The following resources relate to Question 5a.

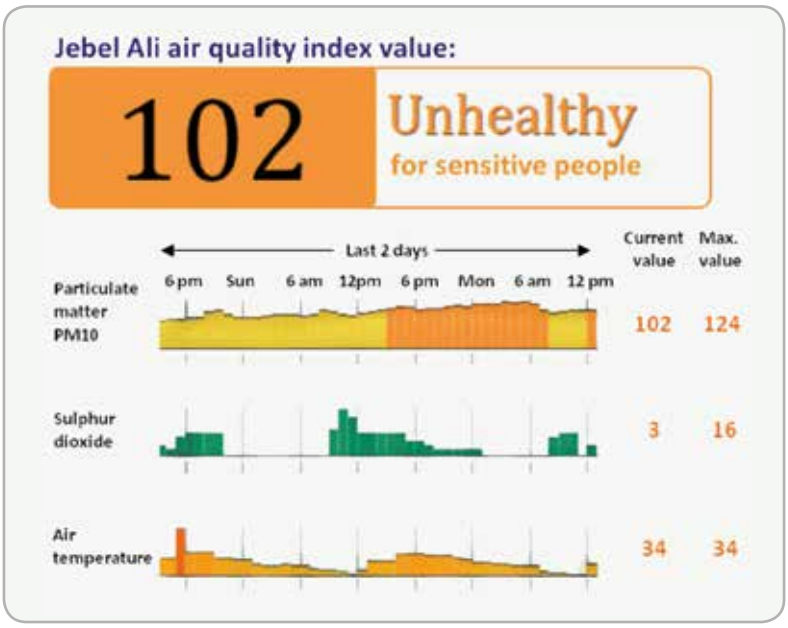


Figure 4a

Extract from a website showing air pollution levels in Jebel Ali, Dubai (October 2015) for a two-day period

Figure 4b

View of part of the city of Dubai

The following resource relates to Question 5b.

	Age					
Activity	**15–20**	**21–35**	**36–50**	**51–65**	**>65**	**Totals**
For business	2	8	32	42	8	**92**
Travelling through	1	5	15	*	6	**39**
Visiting friends and family	*	5	0	0	10	**17**
Sightseeing	1	3	8	9	6	**27**
Totals	**6**	**21**	**55**	**63**	**30**	**175**

Figure 4c

An extract from a student's tourism survey of people (by age) visiting Hong Kong, June 25, 2015

*** A number must be entered in order to complete question 5b(i)**

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Unit 2 – Mark scheme

Question number	Answer	Mark
1(a)(i)	**AO2 (2 marks)** • A = stump (1) • B = headland or cliff (1) Do no not allow 'arch' for B.	**(2)**

Question number	Answer	Mark
1(a)(ii)	**AO1 (2 marks)** Award **1** mark for identifying a physical process and a further **1** expansion mark to explain how that process has formed the rock arch. • Hydraulic action (1) is where air is trapped in joints and cracks of the headland and is then explosively released, weakening the cliff, causing erosion (1) • Abrasion (1) is where small fragments of rock and sand over time wear away hard rock surfaces acting much like sandpaper (1) • Sub-aerial weathering (1) is a linked process where rock is disintegrated in-situ by chemical or mechanical processes (1) Do not accept solution as the process is not valid in Figure 2.	**(2)**

Question number	Indicative content
1(b)	**AO1 (6 marks)/AO2 (2 marks)** **Marking instructions** Markers must apply the descriptors in line with the general marking guidance and the qualities outlined in the levels-based mark scheme below. **Indicative content guidance** The indicative content below is not prescriptive and candidates are not required to include all of it. Other relevant material not suggested below must also be credited. Relevant points may include: AO1: • sustainable policies are those which encourage a softer and more long-term approach to coastal management • examples (low impact) include beach nourishment, beach profiling and dune stabilisation as well as various types of strategic retreat • sustainable policies accommodate, copy or work alongside natural systems and processes • policies can be both holistic and integrated • it is often management via an integrated coastal management plan, ICZM or similar, taking into account a large unit of coast, which is a systems-based approach. AO2: • perhaps the most important advantage of sustainable management is that it is designed to cope with future threats (increased storm events, rising sea levels) yet its implementation can lead to local conflict • schemes which might require flooding of sections of coast, or creating new coastal buffers are often the most controversial as there is intergenerational discord with the present generation losing out to future generations.

Level	Mark	Descriptor
	0	No rewardable material.
Level 1	**1–3**	• Demonstrates isolated elements of geographical knowledge and understanding, some of which may be inaccurate. (AO1) • Understanding addresses a narrow range of geographical ideas. (AO1) • Understanding of geographical ideas lacks detail. (AO1) • Applies knowledge and understanding to geographical information/ideas, making limited logical connections/relationships. (AO2)
Level 2	**4-6**	• Demonstrates geographical knowledge and understanding, which is mostly relevant and may include some inaccuracies. (AO1) • Understanding addresses a range of geographical ideas. (AO1) • Understanding of geographical ideas is not fully detailed and/or developed. (AO1) • Applies knowledge and understanding to geographical information/ideas logically, making some relevant connections/relationships. (AO2)
Level 3	**7-8**	• Demonstrates accurate and relevant geographical knowledge and understanding throughout. (AO1) • Understanding addresses a broad range of geographical ideas. (AO1) • Understanding of the geographical ideas is detailed and fully developed. (AO1) • Applies knowledge and understanding to geographical information/ideas logically, making relevant connections/relationships. (AO2)

Question number	Answer	Mark
2(a)(i)	**AO2 (2 marks)** Award **1** mark for each characteristic of the settlement in Area A. Maximum **2** marks. High density/tightly packed (1) • Low rise (1) • Unplanned/random pattern (1) • Poor quality (or similar) (1)	**(2)**

Question number	Answer	Mark
2(a)(ii)	**AO1 (2 marks)** Award **1** mark for identifying a socio-economic process/cause and a further expansion mark, up to a maximum of **2** marks each. • Inequality is caused by lack of access to services (e.g. education, employment etc.) (1) and in poorer parts of the world inequality can be very profound in terms of differences in housing stock (1) • Poverty linked to lack of access to sanitation can create environmental problems such as local pollution (air, water, sea) (1) as well as linked social problems in the form of lack of access to healthcare, high incidence of disease etc. (1) • Rapid rural-urban migration as people seek opportunity (1) causes overcrowding and a lack of affordable/planned housing stock (1) Accept any other processes linked to the image, e.g. globalisation.	**(2)**

Question number	Indicative content
2(b)	**AO1 (6 marks)/AO2 (2 marks)** **Marking instructions** Markers must apply the descriptors in line with the general marking guidance and the qualities outlined in the levels-based mark scheme below. **Indicative content guidance** The indicative content below is not prescriptive and candidates are not required to include all of it. Other relevant material not suggested below must also be credited. Relevant points may include: AO1: • social problems are linked to pollution levels (NOx etc.), plus stress of journeys, congestion, slowness, cost, health etc. • problems will vary depending on context of the urban environment, i.e. large developing world city vs world city vs smaller city etc. • in some cities there are thresholds in pollution levels, e.g. safe limits set by governments and WHO etc. and these may be exceeded leading to problems • in many cities land is at a premium which puts increasing pressure on green spaces and interconnecting wildlife corridors • traffic infrastructure can 'constrict' wildlife populations and prevent them seeking out new territory • there is overlap into environmental problems in terms of pollution degrading the quality of the environment and reducing biodiversity and spaces for plants and animals • good public transport provision will normally reduce some problems. AO2: • as well as the level of management the level of the problems will be determined by the human geography of the urban area particularly the population structure as less resilient groups/communities, i.e. old, young, poor, etc. will have greater impacts on them • other key factors include the physical geography of the urban area as it may prevent pollution gases from dispersing; or the natural dust/particulates (e.g. Dubai) may extend the problems.

Level	Mark	Descriptor
	0	No rewardable material.
Level 1	**1–3**	• Demonstrates isolated elements of geographical knowledge and understanding, some of which may be inaccurate. (AO1) • Understanding addresses a narrow range of geographical ideas. (AO1) • Understanding of geographical ideas lacks detail. (AO1) • Applies knowledge and understanding to geographical information/ideas, making limited logical connections/relationships. (AO2)
Level 2	**4-6**	• Demonstrates geographical knowledge and understanding, which is mostly relevant and may include some inaccuracies. (AO1) • Understanding addresses a range of geographical ideas. (AO1) • Understanding of geographical ideas is not fully detailed and/or developed. (AO1) • Applies knowledge and understanding to geographical information/ideas logically, making some relevant connections/relationships. (AO2)
Level 3	**7-8**	• Demonstrates accurate and relevant geographical knowledge and understanding throughout. (AO1) • Understanding addresses a broad range of geographical ideas. (AO1) • Understanding of the geographical ideas is detailed and fully developed. (AO1) • Applies knowledge and understanding to geographical information/ideas logically, making relevant connections/relationships. (AO2)

Question number	Answer	Mark
3(a)	**AO3 (4 marks)** Award **1** mark for identifying a purpose and a further expansion mark up to a maximum of **2** marks each. The purpose of the investigation is really about an understanding of why the investigation was actually undertaken in the first place. It will be likely linked to: • help to frame geographical theory, concepts and possible issues (1) or to challenge or to compare in the light of findings (1) • it will also give a wider idea of understanding in relation to the nature of the topic (1) and therefore improve geographical knowledge about the topic/area of interest (1) • a better understanding the locality in greater depth (1), or at a time of day when, for example different processes may be occurring which may not usually be seen/observed or measured (1) • gives an improved understanding of the context and nature of the physical/human processes operating (1), which helps to boost prior knowledge. (1) Do not credit the methodology of what was actually done. Note; the 'research question is just to provide a context for the investigation and the subsequent parts that follow.	**(4)**

Question number	Answer	Mark
3(b)	**AO3 (2 marks)** Methods chosen will depend on the nature of the data, e.g. spatial, non-spatial, qualitative, quantitative, etc. Below is an example. Award **1** mark per relevant choice of method used to analyse fieldwork and a further expansion mark, up to a maximum of **2** marks. For example: • initial analysis included scatter graphs to visually explore the strength of relationship between pedestrian flow and rateable land values (1), this technique was chosen as it would allow us to see if a further test, e.g. Spearman's rank should also be used to calculate an RS value to test a hypothesis (1) • calculation of upper and lower quartiles from the beach sediment data (1), allowed us to look at the spread and clustering within the stone–length data. (1) Do not accept: it was easy to use, quick, best method, etc.	**(2)**

Question number	Indicative content
3(c)	**AO3 (6 marks)** **Marking instructions** Markers must apply the descriptors in line with the general marking guidance and the qualities outlined in the levels-based mark scheme below. **Indicative content guidance** Content depends on candidates' choice of research question. Results and conclusions should include the following: • the nature of initial research to inform the context of the enquiry as well as the identification of an appropriate topic to study through the route to enquiry • design of sampling framework: number of sites, spacing, sample sizes, sampling method, plus methodology: equipment, operator error etc. This impacts on both the range and quality of data and in turn has effects upon the nature of the results and the validity of conclusions • appropriate data analysis should be used as a tool(s) to interrogate the results and help take meaning from the data, including measures of validity and reliability. This can include primary and secondary data as well as quantitative and qualitative techniques • conclusions should be clearly explained and substantiated with appropriate links to the results presented and analysed. Nature of responses will be heavily dependent on the context of the fieldwork and the environment in which it was undertaken. However, examiners should reward for detailed clear and location-specific findings which are supported with depth and detail in terms of factual accuracy and realism.

Level	Mark	Descriptor
	0	No rewardable material.
Level 1	**1–2**	• Limited understanding of the relationships between geographical questions and the background information, geographical context and research question. (AO3) • Uses a limited range of fieldwork research skills and techniques to obtain information that may link to, but not support, the investigation of the research question. (AO3) • Limited evidence of an ability to draw conclusions and the evaluation is simplistic, limited to one stage in the route to enquiry. (AO3)

Level	Mark	Descriptor
Level 2	**3–4**	• Some understanding of the relationship between the background information, geographical context and research question. (AO3) • Uses some fieldwork research skills and techniques to obtain information that may link to, but not support, the investigation of the research question. (AO3) • Some evidence of an ability to draw conclusions and the evaluation is relevant, but restricted to one or two stages in the route to enquiry. (AO3)
Level 3	**5–6**	• A full understanding of the relationship between the background information, geographical context and research question. (AO3) • Uses and appropriate range of fieldwork research skills and techniques to obtain information that may link to, but not support, the investigation of the research question. (AO3) • Clear evidence of an ability to draw conclusions and the evaluation is full, across a number of stages in the route to enquiry. (AO3)

<table>
<tr><th>Question number</th><th>Indicative content</th></tr>
<tr><td>3(d)</td><td>This is an example of a route to enquiry:
<table>
<tr><td>1</td><td>Initial research and setting up the context for the investigation</td></tr>
<tr><td>2</td><td>Sampling framework and design</td></tr>
<tr><td>3</td><td>Data presentation – limitations of graphical types, cartographic techniques etc.</td></tr>
<tr><td>4</td><td>Data analysis – issues with the tools, applicability of (small) data set; temporal and spatial limitations</td></tr>
<tr><td>5</td><td>Conclusions – strength and security of what was found in relation to the aims</td></tr>
</table>
AO3 (12 marks)
Marking instructions
Markers must apply the descriptors in line with the general marking guidance and the qualities outlined in the levels-based mark scheme below.

Indicative content guidance
Content depends on candidates’ choice of research question. Evaluation should include the following:
• the nature of initial research to inform the context of the enquiry as well as the identification of an appropriate topic to study through the route to enquiry
• design of sampling framework: number of sites, spacing, sample sizes, sampling method, plus methodology: equipment, operator error etc. This impacts on both the range and quality of data and in turn has effects upon the accuracy of the results and the validity of conclusions
• the efficacy of data presentation aids aspects of interpretation and meaning in the results; poor selection of presentation methods can mislead or skew the message from the data/information
• appropriate data analysis should be used as a tool(s) to help take meaning from the data, including measures of validity and reliability. This can include quantitative and qualitative techniques
• conclusions should be clearly explained and substantiated with appropriate links to the results presented and analysed
• a full evaluation of the whole investigation should reference all stages of the route to enquiry and recognise that geographical meaning should be cautiously interpreted. Each stage can be a potential source of enquiry error, and that some stages/processes can have greater impact on the outcome than others.</td></tr>
</table>

Level	Mark	Descriptor
	0	No rewardable material.
Level 1	**1–4**	• Shows evidence that fieldwork investigation skills used may not have been fully appropriate or effective for the investigation of the geographical questions/issue. (AO3) • Considers the fieldwork investigation process/data/evidence, with limited relevant connections and/or judgements. (AO3) • Argument about the investigation is simplistic and/or generic.(AO3)
Level 2	**5–8**	• Shows evidence that fieldwork investigation skills used were largely appropriate and effective for the investigation of the geographical questions/issue. (AO3) • Critically considers the fieldwork investigation process/data/evidence in order to make some relevant connections and valid judgements. (AO3) • Argument about the investigation may have unbalanced consideration of factors, but is mostly coherent. (AO3)
Level 3	**9–12**	• Shows evidence that fieldwork investigation skills used were appropriate and effective for the investigation of the geographical questions/issue. (AO3) • Critically considers the fieldwork investigation process/data/evidence in order to make relevant connection and judgements that are supported by evidence. (AO3) • Argument about the investigation includes balanced consideration of factors and is fully developed and coherent. (AO3)

Question number	Answer	Mark
4(a)(i)	**AO3 (4 marks)** Award **1** mark per relevant piece of information from Figure 3a/3b and a further development mark of how this can help plan their investigation, up to **2** marks each. • Figure 3a shows how vegetation and other characteristics vary spatially, i.e. from sea to land (1), this might mean that they need to take a series of measurements across the dune in order to understand the spatial aspect (1) • Knowledge of ecology in Figure 3a (1) might give a focus for particular specialist recording equipment (1)/visit to a university department to help them plan (1) • Figure 3a might help them to understand that plants/biodiversity/soil etc can be influenced by other factors, e.g. micro-climate (1), so they would need to use equipment to measure these e.g. thermometer, anemometer etc (1)/use secondary local weather data (1) • Figure 3b might make them think that the model is inaccurate (1), so they might consider setting up a comparison experiment(s) in another similar coastal ecosystem (1)/get different secondary data for that area (1) • Figure 3b might make them think that seasonal variations may have an impact on species (1), which helps them to further understand patterns (1) e.g. seasonal variation caused by changing temperatures, rainfall etc.	**(4)**

Question number	Answer	Mark
4(a)(ii)	**AO3 (3 marks)** Award **1** mark for identifying a problem associated with secondary data and a further **2** expansion marks, up to a maximum of **3** marks each. • Its only for a short amount of time (1), so therefore in might be unreliable (1) and there is no indication of if this data forms part of a 'usual' pattern for this time of year (as you can see if it is an anomaly) (1) • There if no information about how the data is collected (1), so this means there must be questions about who collected it (1) and the quality of their equipment/machines/sampling frequency/accuracy etc. (1) Accept any other problems associated with secondary data and associated justification/exemplification of points.	**(3)**

Question number	Answer	Mark
4(b)(i)	**AO3 (2 marks)** • axes (x) and height (approximately) correct (1) • proportions/divisions (approximately) correct based on the data (after calculation of missing entries in the columns) (1)	**(2)**

Question number	Answer	Mark
4(b)(ii)	**AO3 (3 marks)** Award **1** mark for identifying a reason why the data may be unreliable and a further **2** expansion marks, up to a maximum of **3** marks each. • It only has a limited number of categories for age (1), for example age does not go down less than 15 years (1), so people below this age range do not have their age recorded which can introduce bias (1) • It only has a limited number of categories for activity (1), so there may be activities that can't be recorded (1), so people doing something different do not have their activity recorded which can introduce bias (1) • The survey is only conducted on one day (1), so this may not be representative of visitors to the beach as a whole/small sample. (1) Without further data you couldn't comment on reliability or degree of bias (1) • No information about how respondents were selected in the questionnaire (1), or whether some were excluded from the sample/refused to answer (1), which will impact on the outcomes and introduce bias (1) Accept any other explanations if feasible based on the data in Figure 3c.	**(3)**

Question number	Answer	Mark
5(a)(i)	**AO3 (4 marks)** Award **1** mark per relevant piece of information from Figure 4a/4b and a further development mark of how this can help plan their investigation, up to **2** marks each. • Figure 4a shows how pollution varies temporally, i.e. over the course of a day (1), this might mean that they need to take a series of measurements over a 24hr period or similar in order to understand the temporal aspect (1) • Knowledge of different pollutants in Figure 4a (1) might give a focus for particular specialist recording equipment (1)/visit to a university department to help them plan (1) • Figure 4a might help them to understand that pollution levels can be influenced by other atmospheric/weather conditions (1), so they would need to use equipment to measure these as well, e.g. thermometer, anemometer etc (1)/use secondary local weather data (1) • Figure 4b might make them think that pollution levels can very spatially (1), so they might consider setting up a comparison experiment(s) in another part of town (1)/get different secondary data for that area (1) • Figure 4b might make them think that seasonal variations may have an impact on pollution levels (1), which helps them to further understand patterns (1) e.g. seasonal variation caused by amount of dust/local winds.	**(4)**

Question number	Answer	Mark
5(a)(ii)	**AO3 (3 marks)** Award **1** mark for identifying a problem associated with secondary data and a further **2** expansion marks, up to a maximum of **3** marks each. • Its only for a short amount of time (1), so therefore in might be unreliable (1) and there is no indication of if this data forms part of a 'usual' pattern for this time of year (as you can see if it is an anomaly) (1) • There if no information about how the data is collected (1), so this means there must be questions about who collected it (1) and the quality of their equipment/machines/sampling frequency/accuracy etc. (1) Accept any other problems associated with secondary data and associated justification/exemplification of points.	**(3)**

Question number	Answer	Mark
5(b)(i)	**AO3 (2 marks)** • axes (x) and height (approximately) correct (1) • proportions/divisions (approximately) correct based on the data (after calculation of missing entries in the columns) (1)	**(2)**

Question number	Answer	Mark
5(b)(ii)	**AO3 (3 marks)** Award **1** mark for identifying a reason why the data may be unreliable and a further **2** expansion marks, up to a maximum of **3** marks each. • It only has a limited number of categories for age (1), for example age does not go down less than 15 years (1), so people below this age range do not have their age recorded which can introduce bias (1) • It only has a limited number of categories for activity (1), so there may be activities that can't be recorded (1), so people doing something different do not have their activity recorded which can introduce bias (1) • The survey is only conducted from one place/over one day (1), so this may not be representative of visitors to the city as a whole/small sample. (1) Without further data you couldn't comment on reliability or degree of bias (1) • No information about how respondents were selected in the questionnaire (1), or whether some were excluded from the sample/refused to answer (1), which will impact on the outcomes and introduce bias (1) Accept any other explanations if feasible based on the data in Figure 4c.	**(3)**

Write your name here

Surname	Other names

Pearson Edexcel
International
Advanced Level

Centre Number | | | | | |

Candidate Number | | | | |

Geography

International Advanced Level
Unit 3: Contested Planet

Sample assessment materials for first teaching
September 2016
Time: 2 hours

Paper Reference
WGE03/01

You must have:
Resource booklet (enclosed), calculator.

Total Marks

Candidates may use any calculator permitted by Pearson regulations.

Instructions

- Use **black** ink or ball-point pen.
- **Fill in the boxes** at the top of this page with your name, centre number and candidate number.
- Answer **all** questions in Section A, **one** question in Section B and **one** question in Section C.
- Answer the questions in the spaces provided
  – *there may be more space than you need.*

Information

- The total mark for this paper is 90.
- The marks for **each** question are shown in brackets
  – *use this as a guide as to how much time to spend on each question.*

Advice

- Read each question carefully before you start to answer it.
- Check your answers if you have time at the end.

Turn over ▶

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SECTION A: Compulsory topics and synoptic question

You must use the Resource booklet.

Answer ALL questions in this section. Write your answers in the spaces provided.

A1: Atmosphere and Weather Systems

1 (a) Using Figure 1, suggest how both human and physical factors could help explain the pattern of impacts shown.

(10)

DO NOT WRITE IN THIS AREA
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(b) Evaluate the contribution forecasting technologies can make to the successful management of extreme weather events.

(15)

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DO NOT WRITE IN THIS AREA

(Total for Question 1 = 25 marks)

DO NOT WRITE IN THIS AREA

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A2: Biodiversity Under Threat

2 Using Figure 2, suggest reasons for the different values of tropical rainforest ecosystem services.

(10)

(Total for Question 2 = 10 marks)

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Synoptic question

You should use relevant knowledge and understanding from AS unit 1 and A2 unit 3 (topics A1 and A2) to answer this question.

3 To what extent is globalisation responsible for the threats facing biodiversity?

(15)

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(Total for Question 3 = 15 marks)

TOTAL FOR SECTION A = 50 MARKS

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SECTION B: Resource options

You must use the Resource booklet.

Answer ONE question in this section – EITHER Question 4 OR Question 5.
Write your answers in the spaces provided.

B1: Energy Security

4 (a) Using Figure 3, suggest reasons for the differences in energy mix between Mexico and the Czech Republic.

(5)

(b) Using named examples, assess the contribution renewable energy sources could make to both future energy security and environmental sustainability.

(15)

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(Total for Question 4 = 20 marks)

B2: Water Conflicts

5 (a) Using Figure 4, suggest reasons for the differences in water sources between the United Arab Emirates (UAE) and Zimbabwe.

(5)

(b) Using named examples, assess the importance of water supply in promoting both human health and economic development.

(15)

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(Total for Question 5 = 20 marks)

TOTAL FOR SECTION B = 20 MARKS

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SECTION C: Economic and political options

Answer ONE question in this section – EITHER Question 6 OR Question 7.
Write your answers in the spaces provided.

C1: Superpower Geographies

6 To what extent do today's superpowers and emerging powers gain and maintain power in different ways to those in the past?

(20)

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(Total for Question 6 = 20 marks)

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C2: Bridging the Development Gap

7 To what extent does a development gap exist in all places and at all scales?

(20)

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(Total for Question 7 = 20 marks)

TOTAL FOR SECTION C = 20 MARKS
TOTAL FOR PAPER = 90 MARKS

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Pearson Edexcel
International Advanced Level

Geography
International Advanced Level
Unit 3: Contested Planet

Sample assessment materials for first teaching September 2016
Resource booklet

Paper Reference
WGE03/01

Do not return this Resource booklet with the question paper.

Turn over ▶

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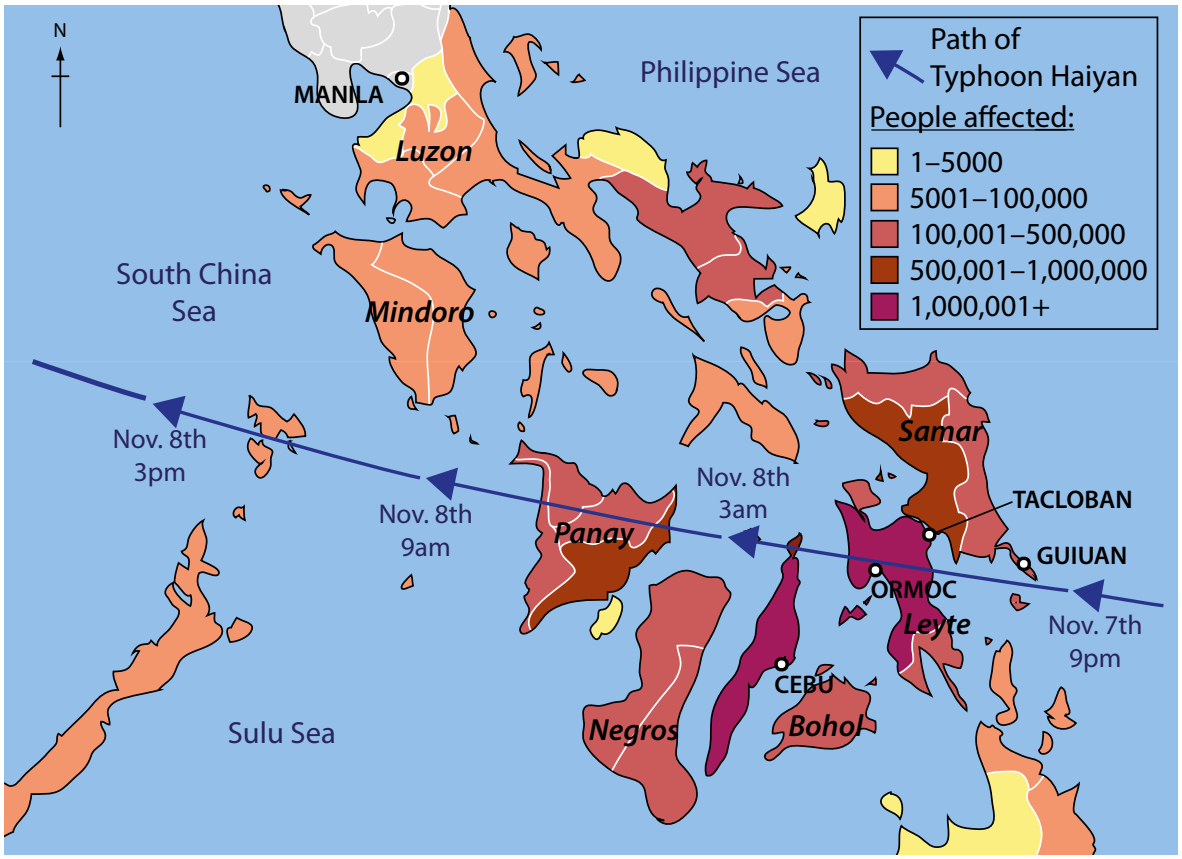
SECTION A

A1: Atmosphere and Weather Systems

The following resource relates to Question 1.



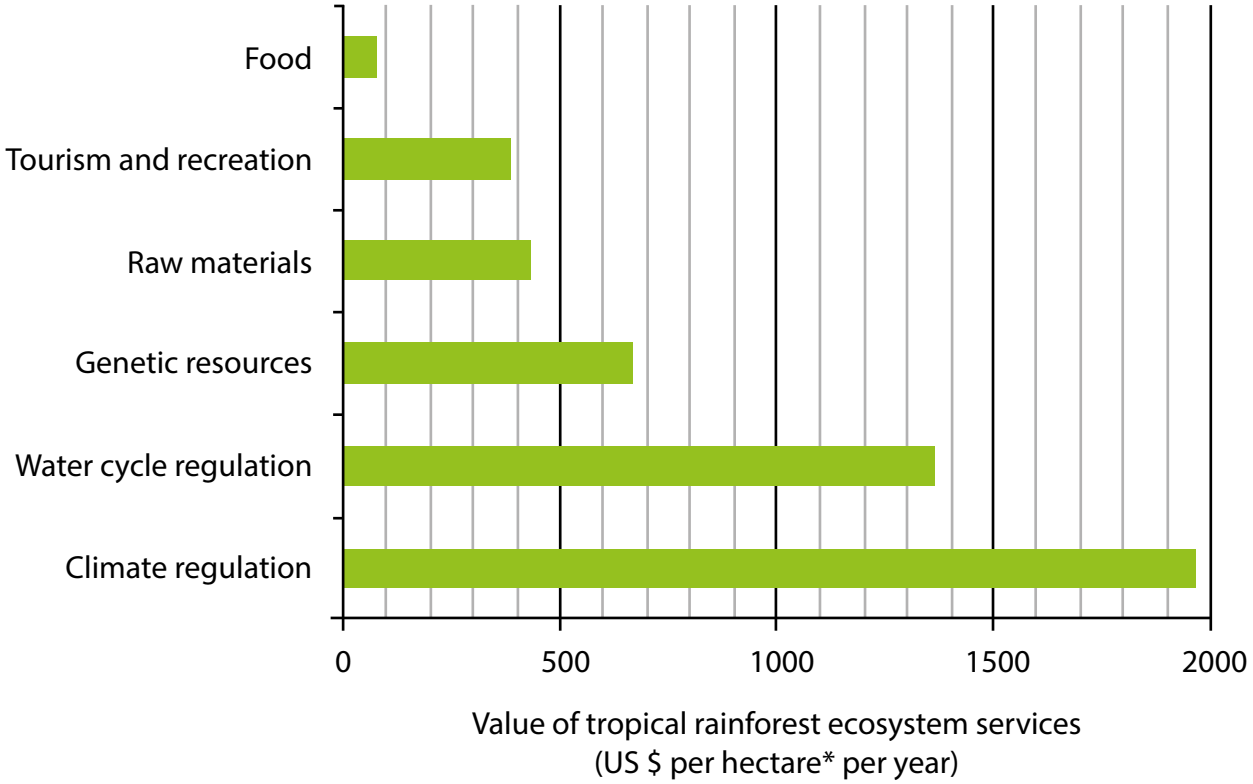
(Source: Philippines National Disaster Risk Reduction and Management Council and USAID)

Figure 1

The distribution of people affected by Typhoon Haiyan in the Philippines, November 2013

A2: Biodiversity Under Threat

The following resource relates to Question 2.



(Source adapted from: http://openlandscapes.zalf.de/openLandscapesWIKI_Glossaries/Regulating%20Ecosystem%20Services.aspx)

Figure 2

The value of tropical rainforest ecosystem services
(*one hectare is an area 100m × 100m)

SECTION B

B1: Energy Security

The following resource relates to Question 4.

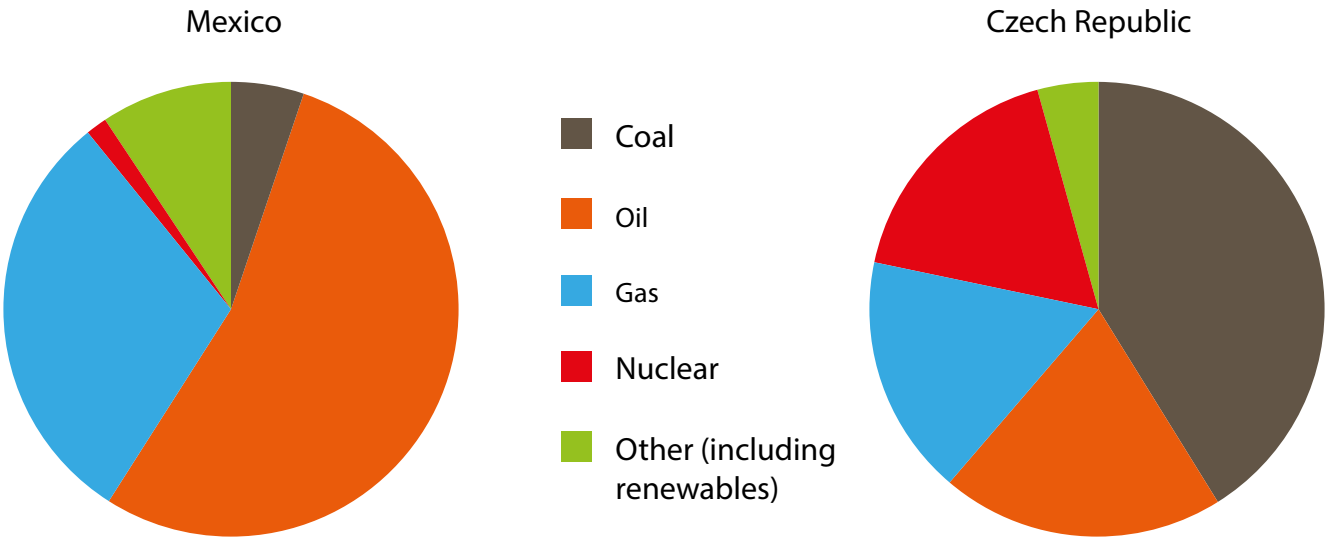


Figure 3

The energy mix of two countries in 2013

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B2: Water conflicts

The following resource relates to Question 5.

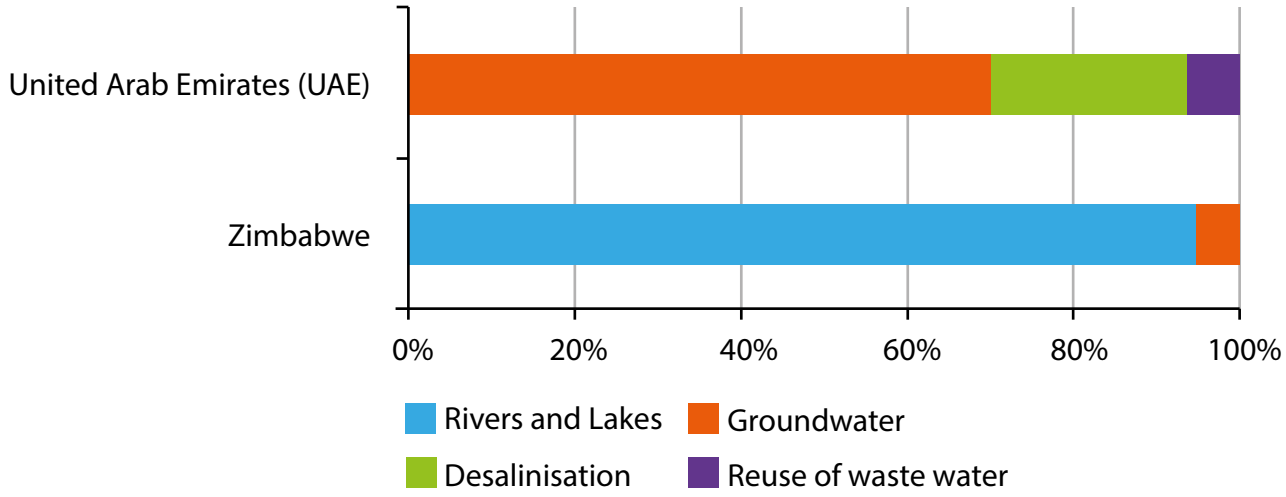

Figure 4

Water sources for two countries

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Unit 3 – Mark scheme

Question number	Indicative content
1(a)	**AO1 (4 marks)/AO2 (6 marks)** **Marking instructions** Markers must apply the descriptors in line with the general marking guidance and the qualities outlined in the levels-based mark scheme below. **Indicative content guidance** The indicative content below is not prescriptive and candidates are not required to include all of it. Other relevant material not suggested below must also be credited. Relevant points may include: AO1: • numbers affected could be related to population density (as the data are absolute numbers, not percentage of people affected) if more people live in some areas • cities/towns could have been worse affected due to the concentration of poor quality housing/slums (or longer term, disease outbreaks) • areas closest to the track are more affected; intense winds (damage to property) and storm surges (low lying coastal areas in the east) with effects diminishing with distance • intense rain causing flooding and soil erosion in river valleys and low-lying areas. AO2: • named towns/cities in the worst affected areas (parts of Luzon have 100,000-500,000 affected) despite being some way from the storm track • level of development is low in the Philippines so the huge numbers could reflect this (poverty, poor housing, lack of effective response) • areas further west may have been warned/evacuated on 8th November having seen the destruction to the east on 7th November • the typhoon will have lost energy over the islands as it moved west, reducing the physical impacts westward • anticlockwise rotation would have driven the storm surge onshore at Cebu and southern Leyte; bays concentrate storm surges, e.g. at Tacloban • human factors, i.e. poverty, lack of protection might in the end be considered more important than physical as a similar storm in a developed country is unlikely to have had this effect.

Level	Mark	Descriptor
	0	No rewardable material.
Level 1	**1–4**	• Demonstrates isolated or generic elements of geographical knowledge and understanding, some of which may be inaccurate or irrelevant. (AO1) • Applies knowledge and understanding to geographical information inconsistently. Connections/relationships between stimulus material and the question may be irrelevant. (AO2) • Applies knowledge and understanding of geographical information/ideas to produce an interpretation with limited relevance and/or support. (AO2)
Level 2	**5-7**	• Demonstrates geographical knowledge and understanding, which is mostly relevant and may include some inaccuracies. (AO1) • Applies knowledge and understanding to geographical information to find some relevant connections/relationships between stimulus material and the question. (AO2) • Applies knowledge and understanding of geographical information/ideas to produce a partial but coherent interpretation that is mostly relevant and supported by evidence. (AO2)
Level 3	**8-10**	• Demonstrates accurate and relevant geographical knowledge and understanding throughout. (AO1) • Applies knowledge and understanding to geographical information logically to find fully relevant connections/relationships between stimulus material and the question. (AO2) • Applies knowledge and understanding of geographical information/ideas to produce a full and coherent interpretation that is relevant and supported by evidence. (AO2)

Question number	Indicative content
1(b)	**AO1 (5 marks)/AO2 (10 marks)** **Marking instructions** Markers must apply the descriptors in line with the general marking guidance and the qualities outlined in the levels-based mark scheme below. **Indicative content guidance** The indicative content below is not prescriptive and candidates are not required to include all of it. Other relevant material not suggested below must also be credited. Relevant points may include: AO1: • satellite technology allows storms of all types to be tracked with accuracy, and predictions to be made in terms of landfall location and timing (although there are accuracy issues) • satellites also monitor soil moisture and along with ground stations, can be used to help predict the onset of drought • computer modelling is vital in terms of predictions but is not always accurate • hard engineering (flood walls, barriers etc.) are needed to protect vulnerable coasts from storms • in the case of drought responses can either be long term by managing farming systems and water supply to minimise the effect of drought, or may require an aid response if drought leads to a fall in food/water supply. AO2: • accurate forecasting contributes to warning and evacuation; this latter stage is not possible everywhere so limiting its effectiveness – dissemination of warnings is crucial • contrasts might be made between historic storms and more recent ones to show the impact of better technology, or major recent events to show its limitations • stronger answers should argue that forecasting technology alone does not save lives; information needs to be acted on and in the case of storms people can be moved but not property which can lead to high economic losses • stronger answers should argue that forecasting technology is only one part of managing weather hazards and other approaches are needed • may contrast short term and longer term extremes (storm versus drought) in terms of forecasting's importance.

Level	Mark	Descriptor
	0	No rewardable material.
Level 1	**1–4**	• Demonstrates isolated elements of geographical knowledge and understanding, some of which may be inaccurate or irrelevant. (AO1) • Applies knowledge and understanding of geographical information/ideas, making limited and rarely logical connections/relationships, to produce an interpretation with limited relevance and/or support. (AO2) • Applies knowledge and understanding of geographical information/ideas to produce an unsupported or generic conclusion, drawn from an argument that is unbalanced or lacks coherence. (AO2) • Applies knowledge and understanding of geographical information/ideas to make basic judgements about the significance of some factors. (AO2)
Level 2	**5-8**	• Demonstrates geographical knowledge and understanding, which is occasionally relevant and may include some inaccuracies. (AO1) • Applies knowledge and understanding of geographical information/ideas with limited but logical connections/relationships, to produce a partial interpretation that is supported by some evidence but has limited coherence. (AO2) • Applies knowledge and understanding of geographical information/ideas to come to a conclusion, partially supported by an unbalanced argument with limited coherence. (AO2) • Applies knowledge and understanding of geographical information/ideas to make limited judgements about the significance of some factors. (AO2)

Level	Mark	Descriptor
Level 3	**9-12**	• Demonstrates geographical knowledge and understanding, which is mostly relevant and may include some inaccuracies. (AO1) • Applies knowledge and understanding of geographical information/ideas to find some logical and relevant connections/relationships, to produce a partial but coherent interpretation that is supported by some evidence. (AO2) • Applies knowledge and understanding of geographical information/ideas to come to a conclusion, largely supported by an argument that may be unbalanced or partially coherent. (AO2) • Applies knowledge and understanding of geographical information/ideas to make judgements about the significance of some factors. (AO2)
Level 4	**13-15**	• Demonstrates accurate and relevant geographical knowledge and understanding throughout. (AO1) • Applies knowledge and understanding of geographical information/ideas to find fully logical and relevant connections/relationships, to produce a full and coherent interpretation that is supported by evidence. (AO2) • Applies knowledge and understanding of geographical information/ideas to come to a rational, substantiated conclusion, fully supported by a balanced argument that is drawn together coherently. (AO2) • Applies knowledge and understanding of geographical information/ideas to make supported judgements about the significance of factors. (AO2)

Question number	Indicative content
2	**AO1 (4 marks)/AO2 (6 marks)** **Marking instructions** Markers must apply the descriptors in line with the general marking guidance and the qualities outlined in the levels-based mark scheme below. **Indicative content guidance** The indicative content below is not prescriptive and candidates are not required to include all of it. Other relevant material not suggested below must also be credited. Relevant points may include: AO1: • climate and water cycle are global services, which could explain their very high value as everyone benefits • forests prevent flooding through interception and infiltration, and therefore prevent economic and human losses • genetic resources are high value as a result of their role in medicines and possibly as a genetic bank for crop research • food and local resources for building, construction, income generation. AO2: • climate regulation (forests as a carbon sink; producers of oxygen) is the most global and all forests are crucial to this; plus atmospheric CO2 levels are under threat from human activity making the role of forests even more important hence the value of close to $2000 ha/yr • forests filter water and slowly release it providing a water supply; could be seen as more regional than climate regulation therefore less valuable • in terms of genetic resources it could be argued that TNCs create the value here through research and development, plus the undoubted health benefits of drugs that originate from forest genes • food is limited in volume (at least direct from rainforests); it tends to be important to indigenous people or in some locations (African bushmeat) • raw materials (timber, fibres) are quite low; possibly because they are only taken once, i.e. during deforestation in many cases, or when used by indigenous people they are low value • tourism could be seen as low because it is small in scale (ecotourism) but could be argued that it has potential to grow • credit the idea that assigning a monetary value to these ecosystem services is very difficult, and other data may look very different.

Level	Mark	Descriptor
	0	No rewardable material.
Level 1	**1–4**	• Demonstrates isolated or generic elements of geographical knowledge and understanding, some of which may be inaccurate or irrelevant. (AO1) • Applies knowledge and understanding to geographical information inconsistently. Connections/relationships between stimulus material and the question may be irrelevant. (AO2) • Applies knowledge and understanding of geographical information/ideas to produce an interpretation with limited relevance and/or support. (AO2)
Level 2	**5-7**	• Demonstrates geographical knowledge and understanding, which is mostly relevant and may include some inaccuracies. (AO1) • Applies knowledge and understanding to geographical information to find some relevant connections/relationships between stimulus material and the question. (AO2) • Applies knowledge and understanding of geographical information/ideas to produce a partial but coherent interpretation that is mostly relevant and supported by evidence. (AO2)
Level 3	**8-10**	• Demonstrates accurate and relevant geographical knowledge and understanding throughout. (AO1) • Applies knowledge and understanding to geographical information logically to find fully relevant connections/relationships between stimulus material and the question. (AO2) • Applies knowledge and understanding of geographical information/ideas to produce a full and coherent interpretation that is relevant and supported by evidence. (AO2)

Question number	Indicative content
3	**AO1 (5 marks)/AO2 (10 marks)** **Marking instructions** Markers must apply the descriptors in line with the general marking guidance and the qualities outlined in the levels-based mark scheme below. **Indicative content guidance** The indicative content below is not prescriptive and candidates are not required to include all of it. Other relevant material not suggested below must also be credited. Relevant points may include: AO1: • globalisation has led to dramatically increasing demand for resources, some of which involve the destruction/degradation of biomes/biodiversity • rapid industrialisation has increased global pollution levels with negative impacts on biodiversity • a key element of globalisation is increased accessibility and transport, so few areas are as isolated as they once where • the rise in global population puts increased pressure on resources (may not be linked to globalisation) • the increase in TNCs could be linked to global chains of production and resource exploitation. AO2: • globalisation could be seen as actually promoting the protection of biodiversity, as threats are well-known through global media channels and people are encouraged to care about such issues • TNCs are quickly shamed by pollution events, e.g. BP oil spill in 2010, and work hard to regain their image; sustainable branding might help achieve this but it could be viewed as 'greenwashing' • as countries globalise and develop they may change their attitudes to biodiversity, e.g. environmental awareness and conservation efforts have increased as Brazil has developed and an educated, globally aware middle class has grown • the Environmental Kuznets curve idea is relevant and might suggest that the most globalised, connected countries are more likely to protect than degrade; development might be argued as the key threat as opposed to globalisation per se • the growth of global tourism might be seen as a double-edged sword, both encouraging development in isolated areas and risking biodiversity but also promoting ecotourism and raising awareness

Question number	Indicative content
3	AO2 (continued): • globalisation could be linked to climate change/global warming (possibly the biggest threat as the dramatic rise in global trade is mirrored in emissions, but alternatively a more interdependent world could be more willing to act to protect biodiversity through global actions and agreements such as CITES • stronger answers might unpick globalisation from issues like global warming and argue they are not the same, or might argue that population pressure, urbanisation and the expansion of farmland are more significant threats not specifically linked to globalisation.

Level	Mark	Descriptor
	0	No rewardable material.
Level 1	**1–4**	• Demonstrates isolated elements of geographical knowledge and understanding, some of which may be inaccurate or irrelevant. (AO1) • Applies knowledge and understanding of geographical information/ideas, making limited and rarely logical connections/relationships, to produce an interpretation with limited relevance and/or support. (AO2) • Applies knowledge and understanding of geographical information/ideas to produce an unsupported or generic conclusion, drawn from an argument that is unbalanced or lacks coherence. (AO2) • Applies knowledge and understanding of geographical information/ideas to make basic judgements about the significance of some factors. (AO2)
Level 2	**5-8**	• Demonstrates geographical knowledge and understanding, which is occasionally relevant and may include some inaccuracies. (AO1) • Applies knowledge and understanding of geographical information/ideas with limited but logical connections/relationships, to produce a partial interpretation that is supported by some evidence but has limited coherence. (AO2) • Applies knowledge and understanding of geographical information/ideas to come to a conclusion, partially supported by an unbalanced argument with limited coherence. (AO2) • Applies knowledge and understanding of geographical information/ideas to make limited judgements about the significance of some factors. (AO2)

Level	Mark	Descriptor
Level 3	**9-12**	• Demonstrates geographical knowledge and understanding, which is mostly relevant and may include some inaccuracies. (AO1) • Applies knowledge and understanding of geographical information/ideas to find some logical and relevant connections/relationships, to produce a partial but coherent interpretation that is supported by some evidence. (AO2) • Applies knowledge and understanding of geographical information/ideas to come to a conclusion, largely supported by an argument that may be unbalanced or partially coherent. (AO2) • Applies knowledge and understanding of geographical information/ideas to make judgements about the significance of some factors. (AO2)
Level 4	**13-15**	• Demonstrates accurate and relevant geographical knowledge and understanding throughout. (AO1) • Applies knowledge and understanding of geographical information/ideas to find fully logical and relevant connections/relationships, to produce a full and coherent interpretation that is supported by evidence. (AO2) • Applies knowledge and understanding of geographical information/ideas to come to a rational, substantiated conclusion, fully supported by a balanced argument that is drawn together coherently. (AO2) • Applies knowledge and understanding of geographical information/ideas to make supported judgements about the significance of factors. (AO2)

Question number	Answer	Mark
4(a)	**AO1 (2 marks)/AO3 (3 marks)** Award **1** mark (AO1) for each relevant point and further expansion marks for reasons/explanations linked to the data shown (AO3), up to a maximum of 5 marks. • Countries may have greater domestic physical resources (1), e.g. oil in Mexico/coal in the Czech Republic (1) • Mexico might be better placed to use renewables (solar) (1) due to physical conditions (1) • Costs could lead to a reliance on cheap energy sources (1), e.g. cheap coal and gas in the Czech Republic (1) • Fossil fuel technology is generally cheaper/simpler to use (1) so may be used more in a developing country, e.g. Mexico (1) • Nuclear technology is too costly to obtain/use (1) for a developing country, e.g. Mexico (1) • Public perception (acceptance/rejection) of an energy source (1) might explain the different proportions of nuclear, or renewables, e.g. wind (1) • Government policy may play a role (1) by deliberately creating a diverse mix to reduce risk of insecurity, e.g. Czech Republic (1)	**(5)**

Question number	Indicative content
4(b)	**AO1 (5 marks)/AO2 (10 marks)** **Marking instructions** Markers must apply the descriptors in line with the general marking guidance and the qualities outlined in the levels-based mark scheme below. **Indicative content guidance** The indicative content below is not prescriptive and candidates are not required to include all of it. Other relevant material not suggested below must also be credited. Relevant points may include: AO1: • there are issues with location/availability as some countries have renewable potential whereas others do not, physical constraints are a key issue for some resources, e.g. solar • costs are a key concern in terms of ability to compete with fossil fuels with subsidies – in many cases renewables are just too expensive to justify • most renewables are low CO2 emitters and have varying degrees of carbon neutrality; they may be seen as better for the global environment • most renewables are domestic so if developed, can reduce reliance on imports. AO2: • intermittency is a problem with some renewables such as solar and wind, so they may not be able to provide reliable base load power • most renewables have limited use so far as transport fuels/energy sources due to lack of flexibility; some are more reliable than others, e.g. tidal, HEP, biofuels so detailed contrasts can be made between different renewables • there are complex arguments about nuclear which could be covered (cost, waste, proliferation, fuel source) and very different national policies from continued investment (UK, China) to outright bans (Italy, Germany) • coal might be argued as very polluting and dangerous (SO2, landscape issues, mine safety) and deserved of being replaced • there are local issues with turbines, HEP schemes, nuclear – which make alternative sources less appealing than they might otherwise appear • recognition that some issues are crucial in terms of security, i.e. reliable and affordable supply which means some options are better than others (HEP?); the same is true of the environmental side of the argument; stronger answers will recognise that the decision is complex, i.e. there is no 'ideal' renewable alternative.

Level	Mark	Descriptor
	0	No rewardable material.
Level 1	**1–4**	• Demonstrates isolated elements of geographical knowledge and understanding, some of which may be inaccurate or irrelevant. (AO1) • Applies knowledge and understanding of geographical information/ideas, making limited and rarely logical connections/relationships, to produce an interpretation with limited relevance and/or support. (AO2) • Applies knowledge and understanding of geographical information/ideas to produce an unsupported or generic conclusion, drawn from an argument that is unbalanced or lacks coherence. (AO2) • Applies knowledge and understanding of geographical information/ideas to make basic judgements about the significance of some factors. (AO2)
Level 2	**5-8**	• Demonstrates geographical knowledge and understanding, which is occasionally relevant and may include some inaccuracies. (AO1) • Applies knowledge and understanding of geographical information/ideas with limited but logical connections/relationships, to produce a partial interpretation that is supported by some evidence but has limited coherence. (AO2) • Applies knowledge and understanding of geographical information/ideas to come to a conclusion, partially supported by an unbalanced argument with limited coherence. (AO2) • Applies knowledge and understanding of geographical information/ideas to make limited judgements about the significance of some factors. (AO2)

Level	Mark	Descriptor
Level 3	**9-12**	• Demonstrates geographical knowledge and understanding, which is mostly relevant and may include some inaccuracies. (AO1) • Applies knowledge and understanding of geographical information/ideas to find some logical and relevant connections/relationships, to produce a partial but coherent interpretation that is supported by some evidence. (AO2) • Applies knowledge and understanding of geographical information/ideas to come to a conclusion, largely supported by an argument that may be unbalanced or partially coherent. (AO2) • Applies knowledge and understanding of geographical information/ideas to make judgements about the significance of some factors. (AO2)
Level 4	**13-15**	• Demonstrates accurate and relevant geographical knowledge and understanding throughout. (AO1) • Applies knowledge and understanding of geographical information/ideas to find fully logical and relevant connections/relationships, to produce a full and coherent interpretation that is supported by evidence. (AO2) • Applies knowledge and understanding of geographical information/ideas to come to a rational, substantiated conclusion, fully supported by a balanced argument that is drawn together coherently. (AO2) • Applies knowledge and understanding of geographical information/ideas to make supported judgements about the significance of factors. (AO2)

Question number	Answer	Mark
5(a)	**AO1 (2 marks)/AO3 (3 marks)** Award **1** mark (AO1) for each relevant point and further expansion marks for reasons/explanations linked to the data shown (AO3), up to a maximum of 5 marks. • Very high level of river and lake water use in Zimbabwe (1), due to large rivers and lakes in the country/high rainfall (1) and due to economic water scarcity (1) • Very low level of river and lake water use in UAE (1), due to desert climate/low rainfall (1) • Lake/river use could be seen as a characteristic of a developing country, e.g. Zimbabwe (1) where most people use free surface sources (1) • Groundwater extraction requires investment/technology (1), which may not be available in low income countries, e.g. Zimbabwe (1) • The UAE relies on groundwater extraction (1) because they can afford to/this is the only option due to lack of surface sources (1) • The UAE relies on desalination (1), because of physical water scarcity/they can afford this expensive process (1) • The UAE invests in waste water recycling (1) because of physical water scarcity/because they can afford to (1)	**(5)**

Question number	Indicative content
5(b)	**AO1 (5 marks)/AO2 (10 marks)** **Marking instructions** Markers must apply the descriptors in line with the general marking guidance and the qualities outlined in the levels-based mark scheme below. **Indicative content guidance** The indicative content below is not prescriptive and candidates are not required to include all of it. Other relevant material not suggested below must also be credited. Relevant points may include: AO1: • water is important in terms of sanitation and health • diseases (cholera, typhoid) associated with a poor/dirty water supply have an impact on health • water as the lubricant of development, i.e. an essential component of development • water is very important in terms of industrialisation (factories, energy supply) and domestic use also grows during the development process as income and food production rise • lack of secure supply has a long-term impact on life chances and opportunities; problems such as infant mortality are much higher in locations with poor water supply. AO2: • areas with economic water scarcity are often the least healthy places, i.e. LDCs as lack of water lowers life expectancy and leads to disease, showing that water supply is crucial • mention might be made of the MDG as illustrating the importance placed on improving water supply to improve health, i.e. a global goal as important as poverty reduction • other factors might be mentioned such as the role of governments and aid agencies as the agents that help improve water supply • water supply is critical for agriculture (the largest global consumer) which is crucial in terms of food supply especially GR crops in Asia, where water demand is also rising fastest and problems are most acute (India, Pakistan) • countries facing water scarcity (India) could see development stall as water become a critical issue; emerging powers (China) have invested huge sums to ensure supply (Three Gorges, S-N transfer) which testifies to its significance • examples of failure (Aral Sea) could be used to illustrate what happens when water supply is lost; also attempts to secure shared sources (Nile, Mekong) could be used to show how vital water is in terms of national economic interests

Question number	Indicative content
5(b)	AO2 (continued): • water is likely to be seen as crucial; perhaps more so in terms of human health as this is almost a precursor to economic development.

Level	Mark	Descriptor
	0	No rewardable material.
Level 1	**1–4**	• Demonstrates isolated elements of geographical knowledge and understanding, some of which may be inaccurate or irrelevant. (AO1) • Applies knowledge and understanding of geographical information/ideas, making limited and rarely logical connections/relationships, to produce an interpretation with limited relevance and/or support. (AO2) • Applies knowledge and understanding of geographical information/ideas to produce an unsupported or generic conclusion, drawn from an argument that is unbalanced or lacks coherence. (AO2) • Applies knowledge and understanding of geographical information/ideas to make basic judgements about the significance of some factors. (AO2)
Level 2	**5-8**	• Demonstrates geographical knowledge and understanding, which is occasionally relevant and may include some inaccuracies. (AO1) • Applies knowledge and understanding of geographical information/ideas with limited but logical connections/relationships, to produce a partial interpretation that is supported by some evidence but has limited coherence. (AO2) • Applies knowledge and understanding of geographical information/ideas to come to a conclusion, partially supported by an unbalanced argument with limited coherence. (AO2) • Applies knowledge and understanding of geographical information/ideas to make limited judgements about the significance of some factors. (AO2)

Level	Mark	Descriptor
Level 3	**9-12**	• Demonstrates geographical knowledge and understanding, which is mostly relevant and may include some inaccuracies. (AO1) • Applies knowledge and understanding of geographical information/ideas to find some logical and relevant connections/relationships, to produce a partial but coherent interpretation that is supported by some evidence. (AO2) • Applies knowledge and understanding of geographical information/ideas to come to a conclusion, largely supported by an argument that may be unbalanced or partially coherent. (AO2) • Applies knowledge and understanding of geographical information/ideas to make judgements about the significance of some factors. (AO2)
Level 4	**13-15**	• Demonstrates accurate and relevant geographical knowledge and understanding throughout. (AO1) • Applies knowledge and understanding of geographical information/ideas to find fully logical and relevant connections/relationships, to produce a full and coherent interpretation that is supported by evidence. (AO2) • Applies knowledge and understanding of geographical information/ideas to come to a rational, substantiated conclusion, fully supported by a balanced argument that is drawn together coherently. (AO2) • Applies knowledge and understanding of geographical information/ideas to make supported judgements about the significance of factors. (AO2)

Question number	Indicative content
6	**AO1 (5 marks)/AO2 (15 marks)** **Marking instructions** Markers must apply the descriptors in line with the general marking guidance and the qualities outlined in the levels-based mark scheme below. Responses that demonstrate **only** AO1 without any AO2 should be awarded marks as follows: • Level 1 AO1 performance: 1 mark • Level 2 AO1 performance: 2 marks • Level 3 AO1 performance: 3 marks • Level 4 AO1 performance: 4–5 marks **Indicative content guidance** The indicative content below is not prescriptive and candidates are not required to include all of it. Other relevant material not suggested below must also be credited. Relevant points may include: AO1: • military power is strongly related to wealth and access to technology and tends to be crucial as a pillar of power, e.g. data on the USA's naval or air power • most emerging and superpowers are economically powerful, and this is likely to be seen as a constant • this could be seen as the key way of maintaining power today through TNCs, global investment, FDI, etc. • the power of emerging powers might be seen as largely economic, but moving towards political and military as they grow and evolve into true superpowers with multiple capacities, i.e. how they gain power. AO2: • military power might be argued as more important in the past, during the colonial era; direct 'hard' power to suppress dissent and ensure conquest of colonies • perhaps less important today at least directly, but indirect threat from nuclear arms, drones, global naval power etc. can be seen as important; some might argue that Russia's actions in Ukraine, China's global military rise and even the USA (Iraq, Libya, Afghanistan etc) show that military power is still important/rising in importance; possibly a more important way of maintaining today versus gaining in the past

Question number	Indicative content
6	AO2 (continued): • patterns of trade, trade relations (blocs) and terms of trade might be seen as reinforcing/maintaining power; expect some discussion of neo-colonial relations based on economics rather than conquest; China's role in Africa in terms of gaining influence today • powerful countries roles in IGOs such as the UN, WB/IMF and WTO could be seen as important in terms of the post-war consensus, although some might argue countries act in their own self-interest anyway, ignoring international decision making • could be argued as more significant now than in the past in terms of westernisation and western ideology; although is it actually necessary to be powerful (China)? China's rise might be seen as largely free from cultural and geopolitical influence so evidence that these are less important • a clear judgement is needed but this will depend on the argument; a case could be made for very similar ways today versus the past, or cultural and economic power might be seen as the key today; some will argue that without economic power the other types are not really possible.

Level	Mark	Descriptor
	0	No rewardable material.
Level 1	**1–5**	• Demonstrates isolated elements of geographical knowledge and understanding, some of which may be inaccurate or irrelevant. (AO1) • Applies knowledge and understanding of geographical ideas, making limited and rarely logical connections/relationships. (AO2) • Applies knowledge and understanding of geographical information/ideas to produce an interpretation with limited coherence and support from evidence. (AO2) • Applies knowledge and understanding of geographical information/ideas to produce an unsupported or generic conclusion, drawn from an argument that is unbalanced or lacks coherence. (AO2)

Level	Mark	Descriptor
Level 2	**6-10**	• Demonstrates geographical knowledge and understanding, which is occasionally relevant and may include some inaccuracies. (AO1) • Applies knowledge and understanding of geographical information/ideas with limited but logical connections/relationships. (AO2) • Applies knowledge and understanding of geographical ideas in order to produce a partial interpretation that is supported by some evidence but has limited coherence. (AO2) • Applies knowledge and understanding of geographical information/ideas to come to a conclusion, partially supported by an unbalanced argument with limited coherence. (AO2)
Level 3	**11-15**	• Demonstrates geographical knowledge and understanding, which is mostly relevant and accurate. (AO1) • Applies knowledge and understanding of geographical information/ideas to find some logical and relevant connections/relationships. (AO2) • Applies knowledge and understanding of geographical ideas in order to produce a partial but coherent interpretation that is supported by some evidence. (AO2) • Applies knowledge and understanding of geographical information/ideas to come to a conclusion, largely supported by an argument that may be unbalanced or partially coherent. (AO2)
Level 4	**16-20**	• Demonstrates accurate and relevant geographical knowledge and understanding throughout. (AO1) • Applies knowledge and understanding of geographical information/ideas to find fully logical and relevant connections/relationships. (AO2) • Applies knowledge and understanding of geographical information/ideas to produce a full and coherent interpretation that is supported by evidence. (AO2) • Applies knowledge and understanding of geographical information/ideas to come to a rational, substantiated conclusion, fully supported by a balanced argument that is drawn together coherently. (AO2)

Question number	Indicative content
7	**AO1 (5 marks)/AO2 (15 marks)** **Marking instructions** Markers must apply the descriptors in line with the general marking guidance and the qualities outlined in the levels-based mark scheme below. Responses that demonstrate **only** AO1 without any AO2 should be awarded marks as follows: • Level 1 AO1 performance: 1 mark • Level 2 AO1 performance: 2 marks • Level 3 AO1 performance: 3 marks • Level 4 AO1 performance: 4–5 marks **Indicative content guidance** The indicative content below is not prescriptive and candidates are not required to include all of it. Other relevant material not suggested below must also be credited. Relevant points may include: AO1: • reference to the global north-south divide/Brandt line idea as a basis for the 'gap' • knowledge of what development is i.e. economic versus multi-faceted, and how it can be measured • reference could be made to developed countries, BRICs/NICs and LDCs to illustrate the nature and extent of the global gap; details of the characteristics of different types of country/economy • recognition that the gap has narrowed as many countries have 'bridged' the gap in the last 30 years; a spectrum rather than a gap. AO2: • there are more complex arguments that the idea of a global gap is less applicable today because the 'gap' is more complex; may argue it is more of a spectrum in nature with countries present at a wide range development levels • there are numerous examples of national divides with large differences between core and periphery regions; in some cases these are as large as the global divide • in many cases the divide is an urban – rural one; credit the idea that development strategies/aid may be narrowing the gap in some cases • many will refer to different groups of people usually on a local scale, such as gender differences, differences in the development level of ethnic groups or caste divisions to show that the gap exists at all scales

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Question number	Indicative content
7	AO2 (continued): • some consideration could be given to places where the gap is smaller; examples include Cuba or perhaps Scandinavian countries with large welfare provision • stronger answers will make a judgement about the gap and perhaps comment on its size at different scales; comments on its inevitability might appear or arguments that it can be reduced.

Level	Mark	Descriptor
	0	No rewardable material.
Level 1	**1–5**	• Demonstrates isolated elements of geographical knowledge and understanding, some of which may be inaccurate or irrelevant. (AO1) • Applies knowledge and understanding of geographical ideas, making limited and rarely logical connections/relationships. (AO2) • Applies knowledge and understanding of geographical information/ideas to produce an interpretation with limited coherence and support from evidence. (AO2) • Applies knowledge and understanding of geographical information/ideas to produce an unsupported or generic conclusion, drawn from an argument that is unbalanced or lacks coherence. (AO2)
Level 2	**6-10**	• Demonstrates geographical knowledge and understanding, which is occasionally relevant and may include some inaccuracies. (AO1) • Applies knowledge and understanding of geographical information/ideas with limited but logical connections/relationships. (AO2) • Applies knowledge and understanding of geographical ideas in order to produce a partial interpretation that is supported by some evidence but has limited coherence. (AO2) • Applies knowledge and understanding of geographical information/ideas to come to a conclusion, partially supported by an unbalanced argument with limited coherence. (AO2)

Level	Mark	Descriptor
Level 3	**11-15**	• Demonstrates geographical knowledge and understanding, which is mostly relevant and accurate. (AO1) • Applies knowledge and understanding of geographical information/ideas to find some logical and relevant connections/relationships. (AO2) • Applies knowledge and understanding of geographical ideas in order to produce a partial but coherent interpretation that is supported by some evidence. (AO2) • Applies knowledge and understanding of geographical information/ideas to come to a conclusion, largely supported by an argument that may be unbalanced or partially coherent. (AO2)
Level 4	**16-20**	• Demonstrates accurate and relevant geographical knowledge and understanding throughout. (AO1) • Applies knowledge and understanding of geographical information/ideas to find fully logical and relevant connections/relationships. (AO2) • Applies knowledge and understanding of geographical information/ideas to produce a full and coherent interpretation that is supported by evidence. (AO2) • Applies knowledge and understanding of geographical information/ideas to come to a rational, substantiated conclusion, fully supported by a balanced argument that is drawn together coherently. (AO2)

Pearson Edexcel International Advanced Level

Geography

International Advanced Level
Unit 4: Researching Geography
Advance information: Research Focus

Sample assessment materials for first teaching September 2016

Paper Reference
WGE04/01

You do not need any other materials.

Instructions

- Select **one option**, based on the research you have carried out for Unit 4.
- You should use information contained in the research focus to prepare for the Unit 4 examination.
- The **research focus** will give you an idea of the material which you need to study in order to answer the question in the examination for Unit 4.
- To help you, the focus is divided into:
  - **concepts**, meaning the appropriate background ideas, processes, theories and models
  - **places**, meaning a range of relevant geographical environments and appropriate case studies.
- You will be expected to produce a **report**, with clear sub-sections and referencing. Please consult the accompanying generic mark scheme, which can be found on the Pearson website (www.pearson.com).

Turn over ▶

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OPTION 1: Tectonic Activity and Hazards

- Research a range of methods used in the management of tectonic hazards before, during and after the events.
- Research contrasting examples of a range of tectonic hazards to assess how successfully they have been managed.

OPTION 2: Feeding the World's People

- Research the varied physical and human causes of food insecurity.
- Research a range of locations to illustrate different causes of food insecurity.

OPTION 3: Cultural Diversity: People and Landscapes

- Research the varied reasons why cultural diversity varies spatially.
- Research a range of locations which have variations in cultural diversity.

OPTION 4: Human Health and Disease

- Research the varied causes of health risks and the resulting pattern of diseases and human health.
- Research a range of locations with different health risks in both the developed and developing world.

Write your name here

Surname	Other names

Pearson Edexcel
International
Advanced Level

Centre Number | | | | | |

Candidate Number | | | | |

Geography

International Advanced Level
Unit 4: Researching Geography

Sample assessment material for first teaching
September 2016
Time: 1 hour 30 minutes

Paper Reference
WGE04/01

You do not need any other materials.

Total Marks

Instructions

- Use **black** ink or ball-point pen.
- **Fill in the boxes** at the top of this page with your name, centre number and candidate number.
- Answer **one** question only.
- Answer the question in the space provided
  – *there may be more space than you need.*

Information

- The total mark for this paper is 60.
- The quality of your written communication will be assessed in your response
  – *you should take particular care with your spelling, punctuation and grammar, as well as the clarity of expression.*

Advice

- You are expected to write a report style essay with clear sections and referencing.
- You are advised to use the first page of the answer space on page 3 to plan your answer.

Turn over ▶

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Answer ONE question only.

It is essential that you use your own research to support your arguments.

OPTION 1: Tectonic Activity and Hazards

1 'Prediction and forecasting are the most successful ways of limiting the impact of tectonic hazards'. Discuss.

(Total for Question 1 = 60 marks)

OPTION 2: Feeding the World's People

2 Evaluate the view that food insecurity is largely a result of physical factors.

(Total for Question 2 = 60 marks)

OPTION 3: Cultural Diversity: People and Landscapes

3 'Migration is the most important cause of variations in cultural diversity'. Discuss.

(Total for Question 3 = 60 marks)

OPTION 4: Human Health and Disease

4 Evaluate the view that poverty is the most significant cause of health risks.

(Total for Question 4 = 60 marks)

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Indicate which question you are answering by marking a cross in the box ☒. If you change your mind, put a line through the box ☒ and then indicate your new question with a cross ☒.

Chosen question number:

Question 1 ☒ **Question 2** ☒ **Question 3** ☒ **Question 4** ☒

You are advised to use this page to plan your answer and then begin your answer on page 4.

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TOTAL FOR PAPER = 60 MARKS

Pearson Edexcel International Advanced Subsidiary/Advanced Level in Geography – Sample Assessment Materials – Issue 2 – June 2018 © Pearson Education Limited 2018

Unit 4 – Mark scheme

Indicative content for questions 1 – 4 is below.
The generic mark scheme, which can be found after the indicative content, will be applied to these questions**.**

Question 1 – **'Prediction and forecasting are the most successful ways of limiting the impact of tectonic hazards'. Discuss.**
• Research a range of methods used in the management of tectonic hazards before, during and after the events. • Research contrasting examples of a range of tectonic hazards to assess how successfully they have been managed.
Indicative content
The focus of this title is the success of the various methods of management of hazardous events in order to prevent loss of life and damage to property – their 'impact'. The key is to address 'most successful' so comparison with other methods is a requirement. **The framework** chosen may be by the following. 1. Types of management – 'do nothing', 'adjust' including prediction and forecasting - (this can lead to an 'it is more successful if you manage than if you don't manage'). 2. Type of tectonic hazard – there are three main types – earthquakes, volcanoes and (secondary) tsunami – best approach would probably be case-study led. 3. Impact of disaster – the size of the event from overwhelming events that challenge any management system to mid-scale and minor events that pose fewer challenges to management systems. 4. By level of economic development – there is a clear relationship between the affordability of various management technique and the damage that disasters inflict. **Key analytical points** • The success of management needs to be a focus – how does one measure success? Should this be in terms of property/personal injury and death or both? • Most thoughtful appraisal would be a comparison of the relative success of prediction and forecasting as opposed to mitigation strategies and vulnerability modification. • This might be in terms of loss of life or damage to property. • Success/failure is likely to be based on the following. 1. Size and frequency of event – management may be ineffective if event is very large – Japanese tsunami. 2. Location of event – remoteness, difficulty of access. 3. Timing of event – time of day/year. 4. Development/wealth issues, including: - quality of warning/prediction techniques - quality of prior planning, e.g. building design - quality of rescue services.

Question 1 (continued) – 'Prediction and forecasting are the most successful ways of limiting the impact of tectonic hazards'. Discuss.

In summary

- Prediction and forecasting are limited because they are not universally available and not always reliable especially in terms of the type and scale of the event.
- Hazard fatigue significant in areas with large magnitude but infrequent events impacting on willingness to pay for mitigation methods.

Case studies used are likely to include:

1. California – Loma Prieta
2. Iceland – Eyjafjallajökull
3. Hawaii
4. Asian, Japanese and Chilean tsunami events.

Question 2 – Evaluate the view that food insecurity is largely a result of physical factors.

- Research the varied physical and human causes of food insecurity.
- Research a range of locations to illustrate different causes of food insecurity.

Indicative content

The focus of this title is the **relative** role of physical factors in causing food insecurity which needs to be very carefully defined.

The framework chosen may be by the following.

1. Different causes of food insecurity across a range of physical and human factors including climatic (rainfall trends and global warming), soil quality, population growth and the growth of commercial agriculture, especially in developing countries today.
2. A 'case-study' approach by area/region with different example illustrating a variation in the significance of physical factors.
3. Theoretically driven – Malthus/Boserupian debate.
4. Global Hunger Index (GHI) and/or Food and Agricultural Organisation (FAO) four pillars model.

Key analytical points

- There is clearly a role for physical processes – short term hazardous events will cause food insecurity more or less whatever the human contingency plans might be.
- Long-term insecurity might also be exacerbated by climate change and other hazards with net primary productivity changes affecting yields.
- In the medium term human factors are probably more significant especially changing diets, governance, rising population and uneven access to land.
- Food insecurity is significantly affected by access, utilisation, stability of supply as well as availability.
- Evaluation might include the view that without human ingenuity food output would be significantly lower – 1st and 2nd agricultural revolutions, green revolution and genetic modification.
- Students should recognise that food production is now global with very few parts of the world sitting outside a global supply chain – this has implications for food security – this might be illustrated by land deals made in Africa, e.g. with China/Saudi Arabia etc.

In summary

- It depends on the timescale but, by and large, the title can be rejected.

Case studies are likely to include:

1. Sahel and drylands changing environment
2. South Asian population increase
3. Food shortages and food deserts in developed countries, e.g. USA
4. Land purchases in North-East Africa – Somalia, Ethiopia.

Question 3 – 'Migration is the most important cause of variations in cultural diversity'. Discuss.

- Research the varied reasons why cultural diversity varies spatially.
- Research a range of locations which have variations in cultural diversity.

Indicative content

The focus of this title is whether or not migration, as opposed to other factors including physical isolation, levels of connectedness as a consequence of globalisation and government policies is the main reason for cultural diversity.

The framework chosen may be by the following.

1. Case studies of different societies/places with contrasting levels of migration and contrasting levels of cultural diversity.
2. By level of development.
3. Some might take a theoretical approach – hyperglobalisers both positive and negative, sceptics, transformationalists.

Key analytical points

- Both internal and international migration are likely to cause higher levels of cultural diversity with the diaspora of different cultures spreading.
- Political decisions are central to the level and direction of international migration in states and internal migration in some countries.
- Internal migration is most significant in countries with significant internal diversity, e.g. China but much less so in others with less diversity, e.g. Japan.
- This is especially true of global hub cities with high levels of flux in the population, e.g. London, Singapore.
- Some other causes of cultural diversity are closely connected to migration – specifically levels of interconnectedness (globalisation indices frequently include measures of migration).
- Ethnically mixed societies might create new cultural forms/hybrids ('Singlish') but can also impact negatively by reducing diversity.
- Similarly physical isolation is likely to limit migration although the concept of isolation is subject to change(s) over time.
- Mass tourism is a 'part' of migratory movements and tends to lead to the development of facilities that can replicate the domestic cultures of that mass market which can limit diversity.
- Globalisation of production chains and media is arguably a more significant set of processes but these are often closely associated with movements of labour.

In summary

- The impact of migration is highly significant with international migration playing a key role.
- There may be significant long-term variations that are less clearly related to migration – cultural diffusion.

Question 3 (continued) – 'Migration is the most important cause of variations in cultural diversity'. Discuss.

Case studies used are likely to include:

1. Japan/UK/France
2. Iceland
3. London/Singapore
4. Tuvalu/Thailand
5. Amish communities.

Question 4 – Evaluate the view that poverty is the most significant cause of health risks.

- Research the causes of health risk and the varied pattern of diseases and human health.
- Research a range of locations with different health risks in both the developed and developing world.

Indicative content

The focus of this title is the degree to which poverty (socio-economic status), in a range of spheres, can be held accountable for variations in health risk from place to place and from time to time.

The framework chosen may be by the following.

1. Different causes of health risk including environmental factors, socio-economic status, poverty and geographic factors.
2. Models of health risk (ETM, Kuznets).
3. By health risk, e.g. malaria, TB, Ebola, obesity.
4. By level of development (GNI/GDP/HDI).

Key analytical points

- Health risk can be expressed in two dimensions – geographic extent and threat to individuals.
- The best, indirect, measures are probably life expectancy and DALY's.
- The impact of major health risks are largely determined by poverty and limited access to basics such as clean water and sanitation.
- Poverty is a term that needs deconstructing carefully (absolute and relative) – some students will include health risks associated with quality of built environment, sewage disposal and lack of access to freshwater.
- These latter causes are closely related to levels of development and the availability and costs of inoculation/treatment (e.g. AIDs/HIV).
- Poorer countries have lower life expectancy but within those countries poorer people have lower life expectancy.
- The role of inequalities is very significant – the higher the level of inequality the lower the life expectancy – an issue that relates to governance (postcode lottery).
- Some diseases (obesity and lung cancer) may be a product of development suggesting an inverse relationship between development and health risk.

In summary

- Poverty is a major factor in explaining spatial and temporal variations in health risks, especially **within** countries.
- Lifestyle choices are also significant.

Case studies used are likely to include:

1. Ebola and malaria impact in (West) Africa
2. Obesity in Europe/US
3. Poverty in the UK
4. AIDs global but especially in Africa.

Generic mark scheme	
I	**Introduction; defining and focusing on the question**
0	• No attempt to introduce report.
1-2	• Title referenced but not deconstructed, although topic addressed. • Neither focus nor framework addressed. • One or two key terms partially defined.
3-4	• Some reference to title but limited deconstruction. • Focus of report implied but unclear. • Framework implicit but appropriate indication of framework, either by concepts and/or case studies. • Some accurate definitions of key terms.
5	• Clear deconstruction of title. • Focus of report on geographical question/issue is both clear and rational. • Framework is both explicit and appropriate, either by places, environment and/or concepts. • Accurate definitions of all appropriate terms.
R	**Research knowledge**
0	• No evidence of research.
1-5	• Some case studies/concepts but lacks selection and range so significant gaps. • Concepts and/or theories may be referenced/stated but neither explored nor applied to question. • Very limited range of evidence presented with very limited use of numeric and qualitative data. • Processes not addressed directly but simply asserted.
6-10	• A range (scale/location) of all/mostly relevant case studies used. • A limited set of concepts/theories used that assist in focusing on the question. • Mostly accurate evidence used but with gaps in the numeric and qualitative data. • Some relevant processes explained but with inaccuracies.
11-15	• Wide range of relevant case studies used (by scale and or location). • Relevant concepts and/or theories/models used to support focus. • Factual, accurate and topical evidence used which includes both quantitative and qualitative data. • Relevant processes, interactions and changes accurately explained.

A	Analysis, application and understanding
0	• No understanding or analysis.
1-5	• No obvious report. • A few simple statements related to topic as a whole but not to question asked. • Understanding stated in a few simple phrases but no development. • Statement that views/perspectives might vary but without evidence/support. • Any maps/diagrams are rarely used to support answer.
6-10	• Report is unclear and direction of argument is obscure. • Generalised material often weakly linked to question with focus unclear. • Some conceptual understanding delivered through basic unqualified statements. • Limited appreciation of how identifiable values/perspectives might vary with no support. • Any maps/diagrams are sometimes used to support answers.
11-15	• Report is clear but not always easy to follow with some hesitancy in the argument. • Most of the research is used to support the question which remains in focus. • Some conceptual understanding and argument although largely asserted/stated. • Some appreciation of how identifiable values/perspectives vary although limited support. • Any maps/diagrams are usually used to support answer.
16-20	• Report has a clear direction which is argued coherently. • All research interpreted and applied directly to the question set. • Strong conceptual understanding with coherent argument and counter argument. • Appreciation of different interactions/values/perspectives that are supported by evidence/examples. • Any maps/diagrams are accurate and used to support answer.

C	Conclusion and evaluation
0	• No conclusion or evaluation in report.
1-5	• Content of report weakly related to C and E. • Evaluation limited to statement of inadequate methods. • Conclusions made but much is unrelated to content. • No qualifications.
6-10	• Selective recall of content of report with some evidence ignored. • Some evaluation, either on-going or in final conclusion largely about methodological flaws. • Some conclusions although linkages with evidence occasionally tenuous. • One or two qualifications/exceptions stated but not explained.
11-15	• Clearly stated conclusion with explicit references to title. • Thorough use of content/case studies on places and environments used in report to inform conclusion. • Consistent return to the focus. • Evaluation offers a judgement, but also recognises the complexity of the question.

Q	Quality of written communication, methodology and sourcing
0	• Basic standards of quality of written communication not met.
1-2	• Disjointed organisation and sequencing although may have some subsections. • Many errors in punctuation and spelling that make report hard to follow. • Very limited use of appropriate geographical vocabulary. • Methodology unclear with no detail of rationale for selection of research evidence. • Almost no referencing evidencing/sourcing from very limited range of sources.
3-4	• Generally clearly written with some report style subsections. • Sound standard of punctuation and spelling but with errors although meaning remains clear. • Some good use of appropriate geographical vocabulary. • Sound methodology demonstrating some rationale for evidence selection with simple comments about possible partiality. • Occasional but patchy referencing from several different sources.
5	• Coherent structure and sequencing with obvious report style subsections. • Excellent standards of spelling and punctuation, including geographical vocabulary, with very few errors. • Clear methodology showing a rationale for evidence selection, including potential issues of partiality. • Accurate referencing of a wide range of sources.

Assessment objective mark distribution						
	I	**R**	**A**	**C**	**Q**	**Marks**
AO1	1	15	0	0	0	**16**
AO2	2	0	16	6	0	**24**
AO3	2	0	4	9	5	**20**
Total	5	15	20	15	5	**60**

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