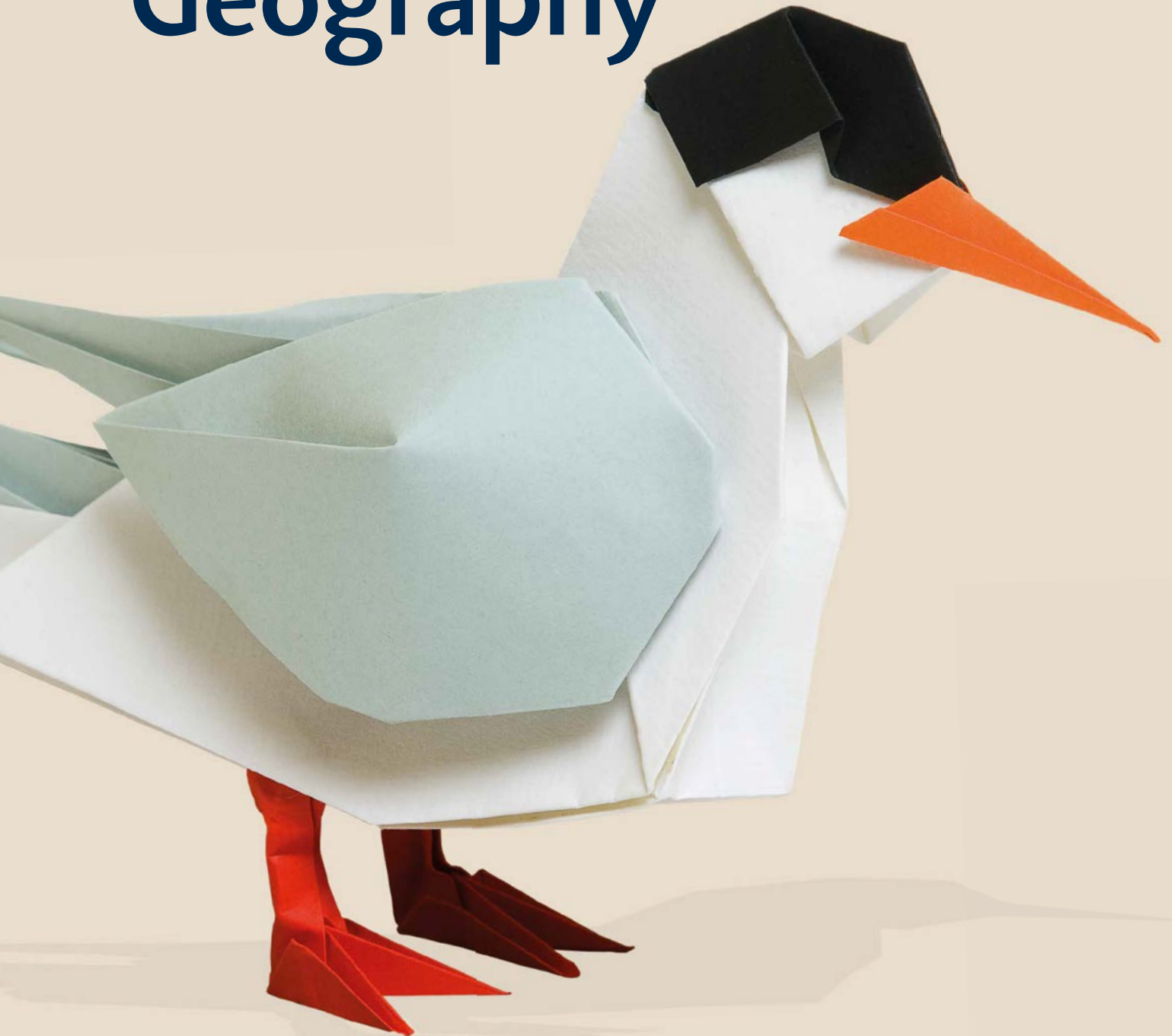


A Level Geography



Sample Assessment Materials

Pearson Edexcel Level 3 Advanced GCE in Geography (9GE0)

First teaching from September 2016

First certification from 2018

Issue 3

Edexcel, BTEC and LCCI qualifications

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Summary of Pearson Edexcel Level 3 Advanced GCE in Geography SAMs

Issue 3 changes

Summary of changes made between previous issue and this current issue	Page number
Corrections have been made to the contents page	Contents page

If you need further information on these changes or what they mean, contact us via our website at: qualifications.pearson.com/en/support/contact-us.html.

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Introduction

The Pearson Edexcel Level 3 Advanced GCE in Geography is designed for use in schools and colleges. It is part of a suite of AS/A Level qualifications offered by Pearson.

These sample assessment materials have been developed to support this qualification 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 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 may be limited.
- When examiners are in doubt regarding the application of the mark scheme to a candidate's response, the team leader must be consulted.
- Crossed-out work should be marked UNLESS the candidate has replaced it with an alternative response.
- 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 and where applicable strand emphasis that should be applied when making judgements within each band.

How to award marks when level descriptions are used

1. Finding the right level

The first stage is to decide into 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.

2. 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
Level 3 GCE

Centre Number

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Candidate Number

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Geography

Advanced
Paper 1

Sample assessment material for first teaching
September 2016
Time: 2 hours 15 minutes

Paper Reference

9GE0/01

You must have:

Resource Booklet (enclosed)
Ruler, calculator

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 **all** questions in Section **A**, and Section **C**.
Answer **either** Question 2 **or** Question 3 in Section **B**.
- Answer the questions in the spaces provided
– *there may be more space than you need.*
- Calculators may be used.
- Any **calculations** must show all stages of **working out** and a **clear answer**.

Information

- The total mark for this paper is 105.
- 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: TECTONIC PROCESSES AND HAZARDS

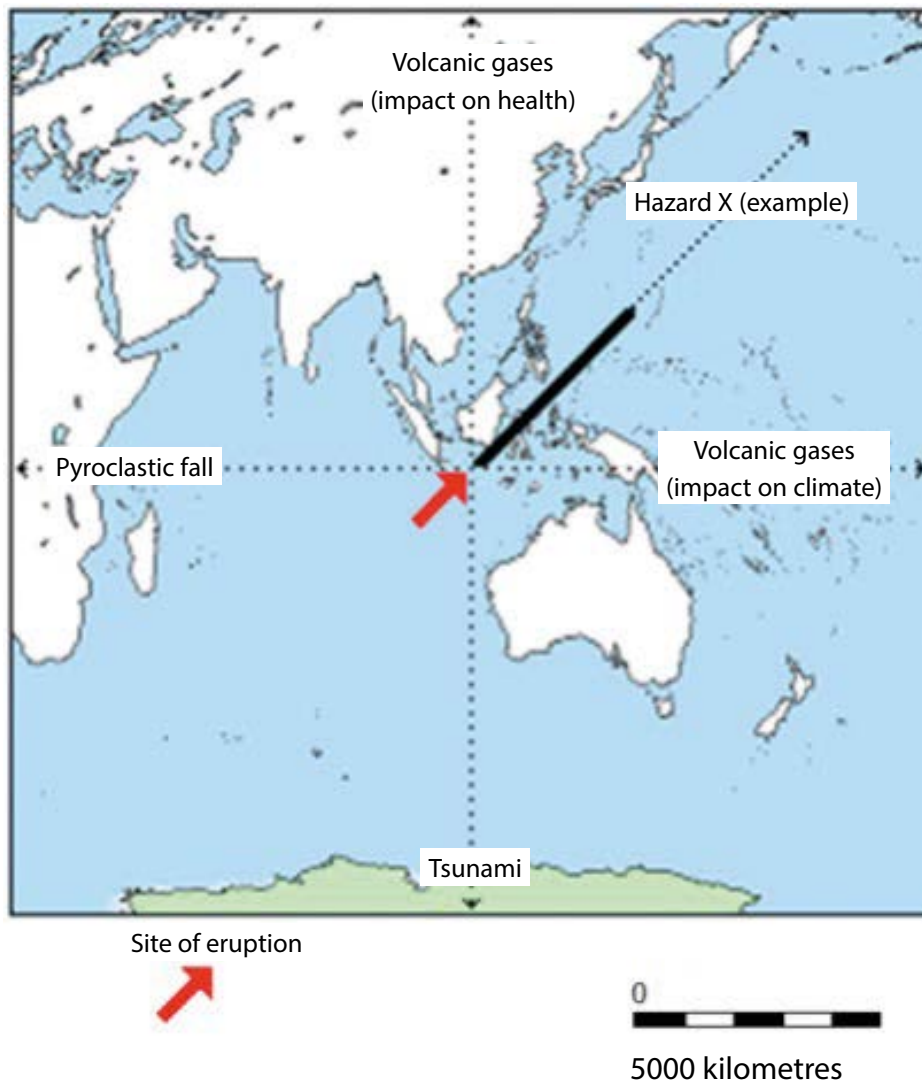
Answer ALL questions in this section. Write your answers in the spaces provided.

You must use the Resource Booklet provided.

- 1 Study Figure 1 in the Resource Booklet.
- (a) For each volcanic hazard shown in Figure 1, draw a line from the site of eruption along the dotted line to show the areal extent of the hazard.

An example is shown for Hazard X.

(4)



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(b) Assess the importance of governance in the successful management of tectonic mega-disasters.

(12)

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Handwriting practice area consisting of 28 horizontal dotted lines.

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(Total for Question 1 = 16 marks)

TOTAL FOR SECTION A = 16 MARKS

SECTION B: LANDSCAPE SYSTEMS, PROCESSES AND CHANGE

Answer ONE question in this section – either Question 2 OR Question 3.

Glaciated Landscape and Change

If you answer Question 2 put a cross in the box .

You must use the Resource Booklet provided.

2 Study Figure 2 shows a lowland glaciated landscape during and after glaciation.

Figure 2 shows a lowland glaciated landscape during and after glaciation.

(a) Study Figure 2A.

Explain how meltwater has contributed to the formation of the proglacial features shown.

(6)

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(b) Study Figure 2B.

Explain how the landforms shown in Figure 2B can be used to help reconstruct ice movement.

(6)

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(c) Explain how the glacial mass balance concept contributes to an understanding of glacial systems.

(8)

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A large rectangular area with rounded corners, containing 15 horizontal dotted lines for writing.

(d) Evaluate the extent to which periglacial landscapes are more vulnerable to climate change than glaciated landscapes.

(20)

Area for writing the answer, consisting of multiple horizontal dotted lines.

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DO NOT WRITE IN THIS AREA

(Total for Question 2 = 40 marks)

Do not answer Question 3 if you have answered Question 2.

Coastal Landscape and Change

If you answer Question 3 put a cross in the box .

You must use the Resource Booklet provided.

3 Study Figure 3.

(a) (i) Explain the formation of the cliff profile shown in photograph 3A.

(6)

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(ii) Explain the influence of rock structure and lithology on the physical features shown in photograph 3B.

(6)

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A series of horizontal dotted lines for writing.

(b) Explain how the sediment cell concept contributes to the understanding of coastal systems.

(8)

Area for writing the answer, consisting of multiple horizontal dotted lines.

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(c) Evaluate the contribution that changes in sea level make to the formation of coastal landscapes.

(20)

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A large rectangular area containing numerous horizontal dotted lines for writing.

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(Total for Question 3 = 40 marks)

TOTAL FOR SECTION B = 40 MARKS

SECTION C: PHYSICAL SYSTEMS AND SUSTAINABILITY

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

You must use the Resource Booklet provided.

4 Study Figure 4A.

(a) Explain one reason why over-abstraction of groundwater could become a problem for Area A.

(3)

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(b) Explain why river regimes might vary between basins.

(6)

Area with horizontal dotted lines for writing.

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(c) Explain how physical and human factors contribute to an increased risk of water insecurity.

(8)

Area containing horizontal dotted lines for writing the answer to question (c).

(d) Study Figure 4B.

Assess the likely impacts of climate warming on the components of the carbon cycle shown in Figure 4B.

(12)

Area with horizontal dotted lines for writing the answer.

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(e) Evaluate the extent to which today's increasing demand for energy is the most important factor modifying the carbon cycle.

(20)

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A large rectangular area with rounded corners, containing numerous horizontal dotted lines for writing.

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(Total for Question 4 = 49 marks)

TOTAL FOR SECTION C = 49 MARKS
TOTAL FOR PAPER = 105 MARKS

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Pearson Edexcel Level 3 GCE

Geography

Advanced Paper 1

Sample assessment material for first teaching
September 2016
Resource Booklet

Paper Reference
9GE0/01

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.

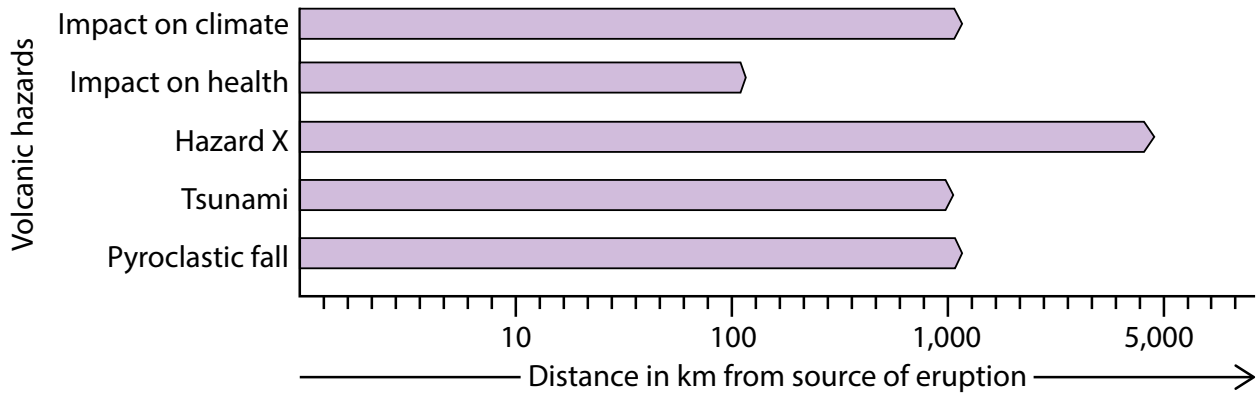


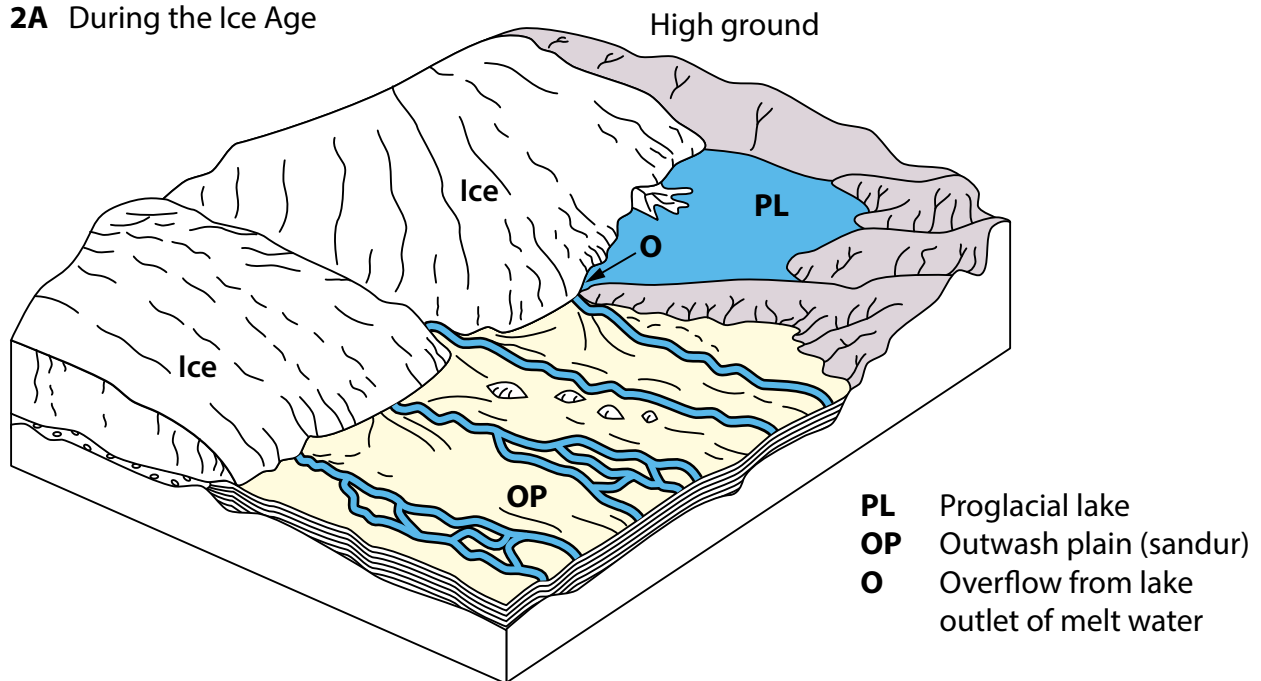
Figure 1

A graph showing the areal extent of selected volcanic hazards

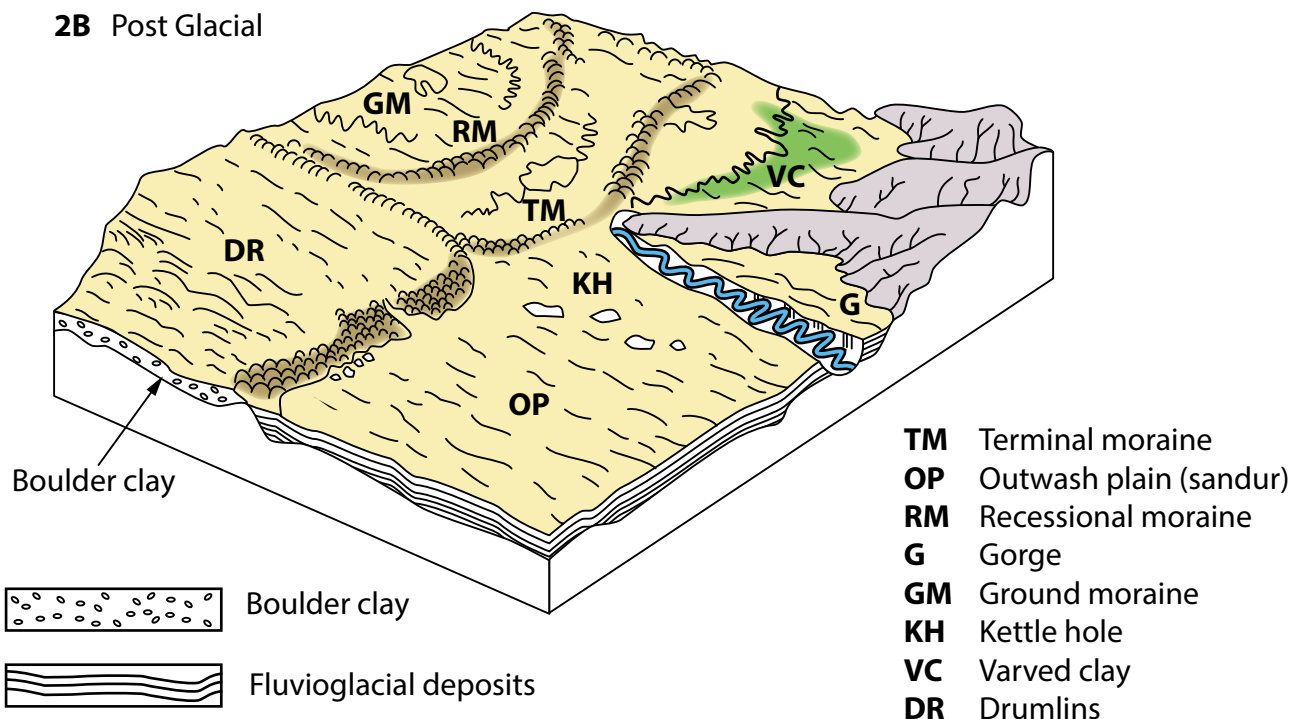
SECTION B

The following resource relates to Question 2.

2A During the Ice Age



2B Post Glacial



(Source: <http://kailadodge.tripod.com/id11.htm>)

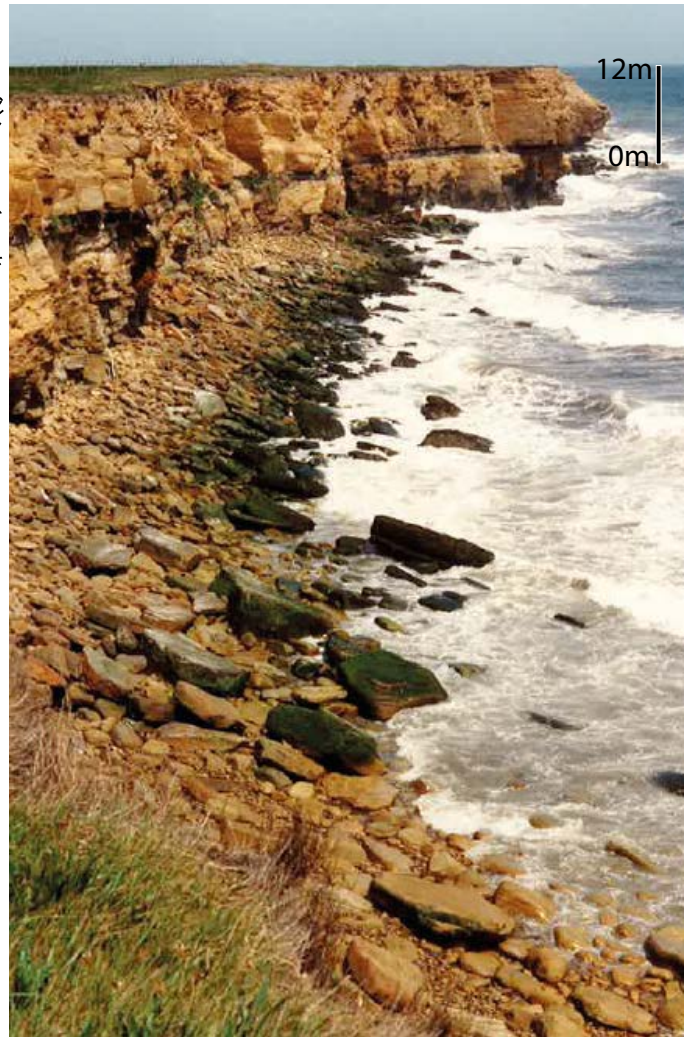
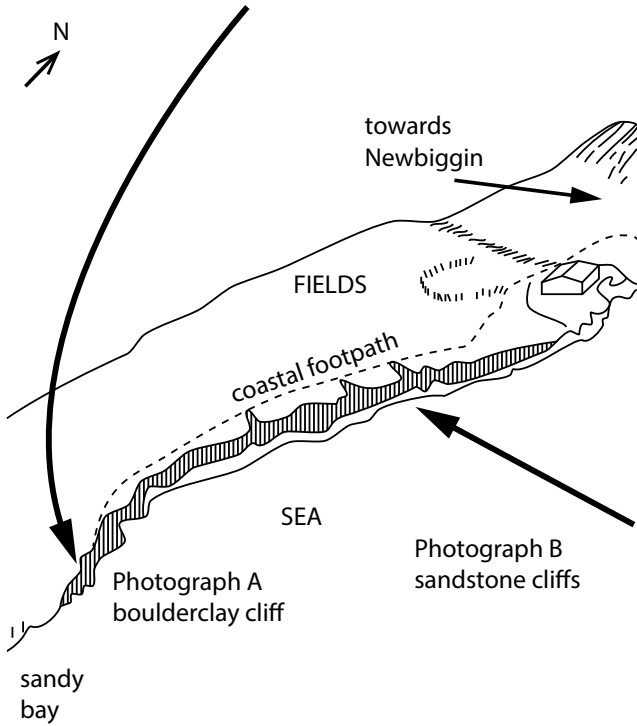
Figure 2

Two diagrams of a glaciated lowland during and after the Ice Age

The following resource relates to Question 3.



Photograph 3A



Photograph 3B

(Source: Photos – Sue Warn)

Figure 3

Two photos and a diagram showing contrasting coastal features in the north of England

SECTION C

The following resource relates to Question 4.

Area A

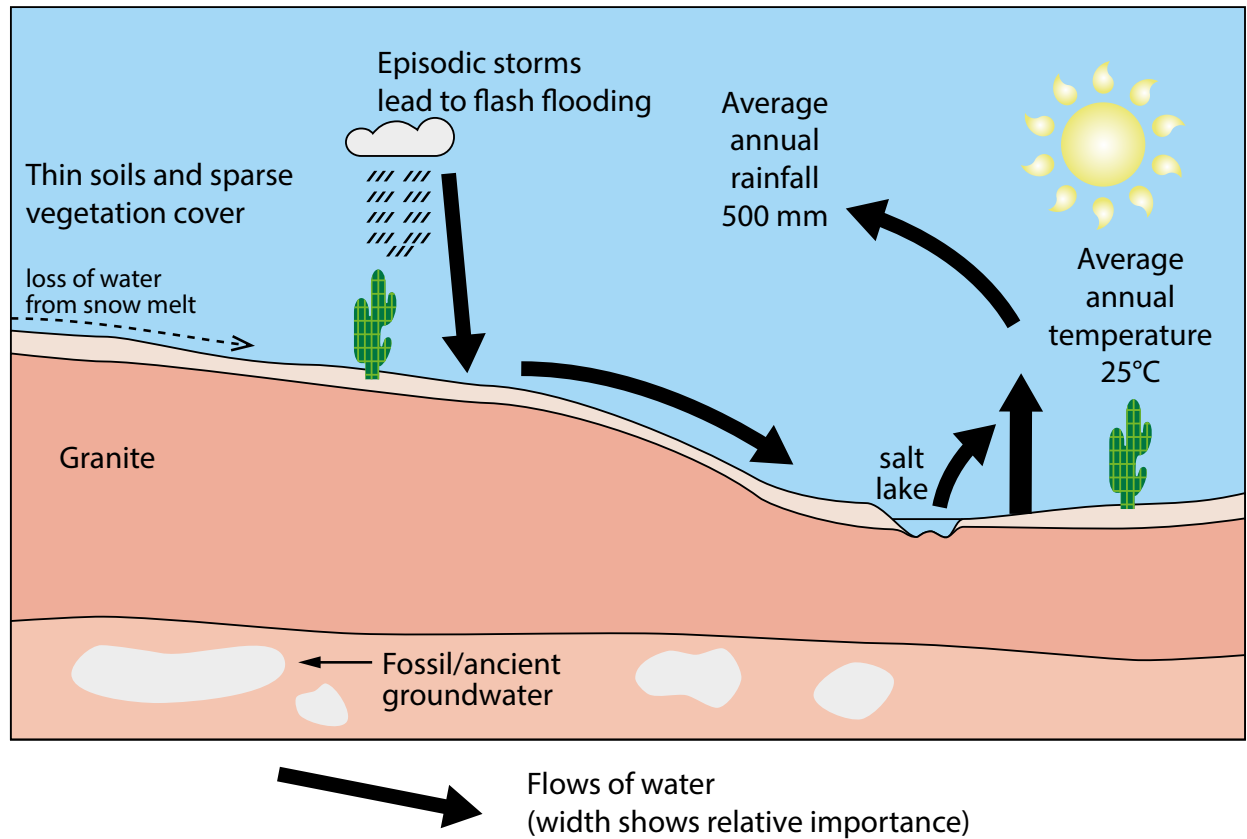


Figure 4A

Diagram showing the water cycles

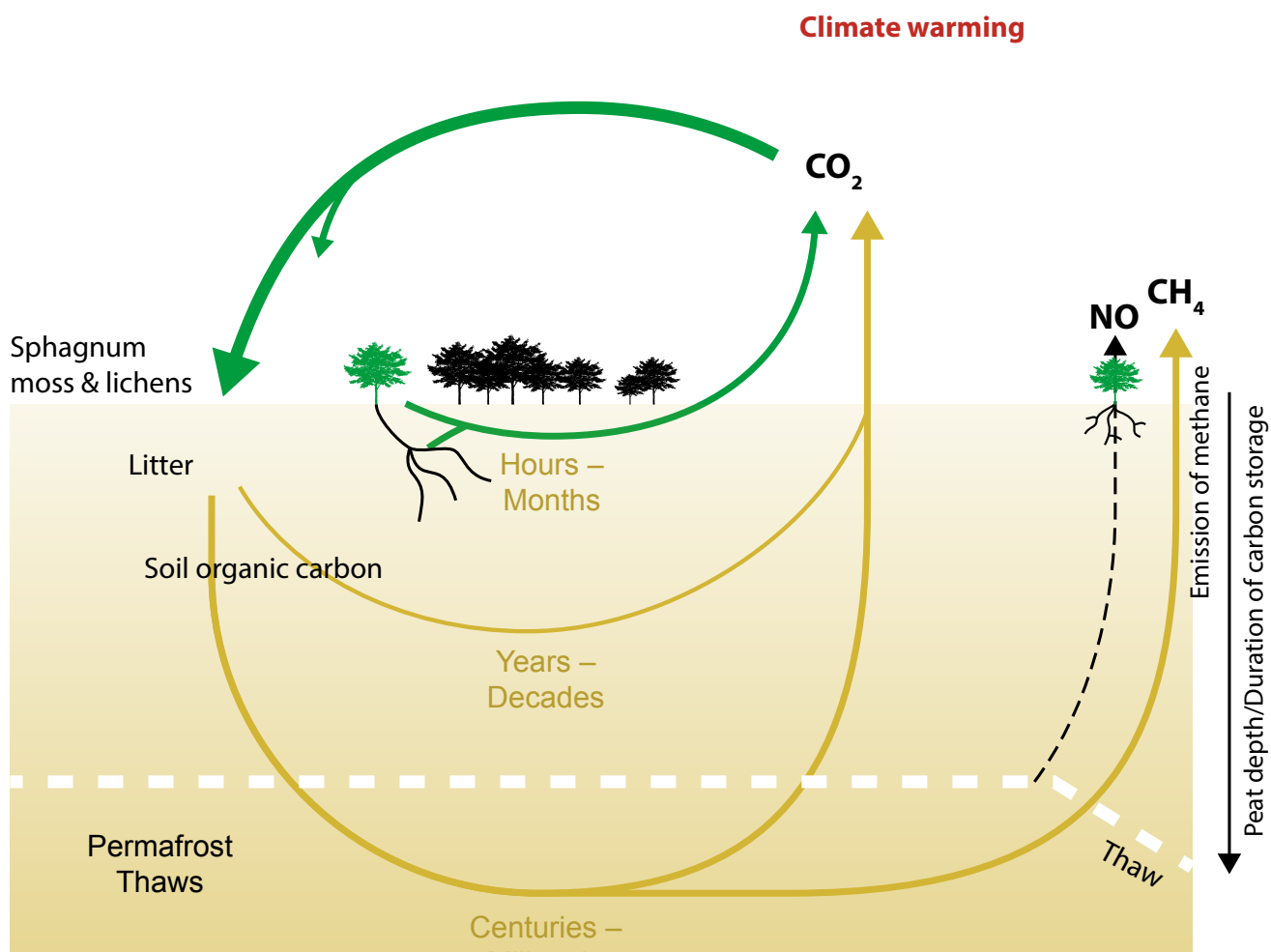
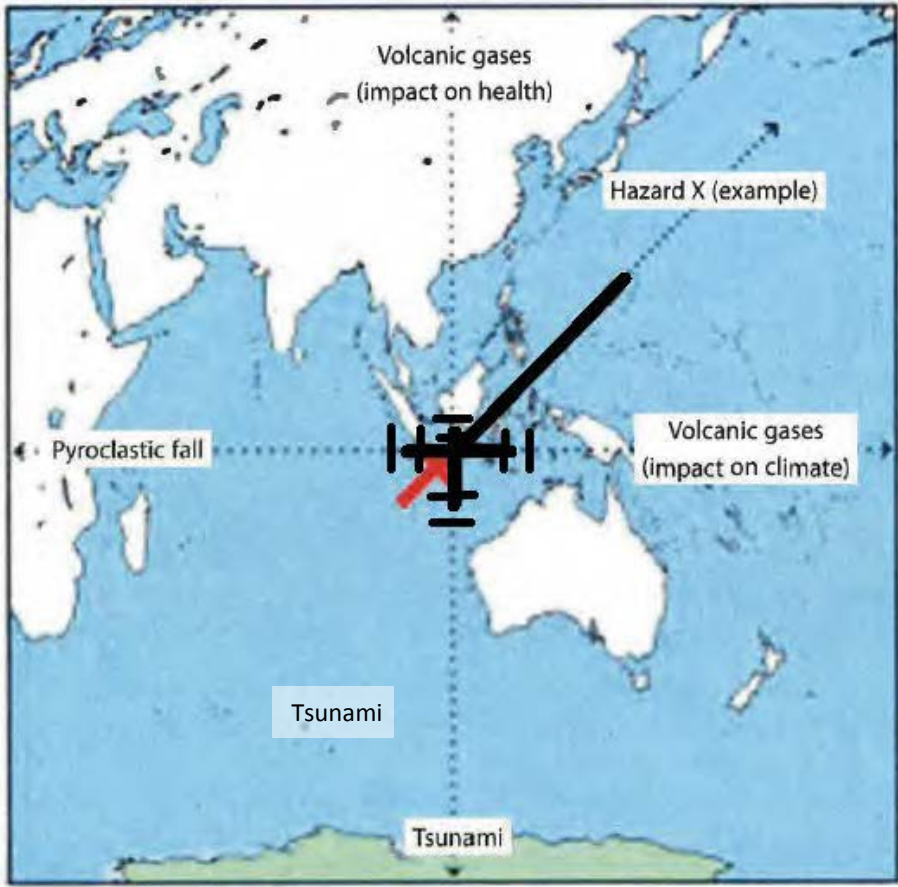


Figure 4B

Diagram showing how climate warming impacts on the carbon cycle in a tundra environment

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Paper 1 mark scheme

Question number	Answer	Mark
1(a)	<p style="text-align: center;">AO3 (4 marks)</p> <p>Award 1 mark for each line that falls within the acceptable ranges shown below, up to a maximum of 4 marks.</p> 	(4)

Question number	Indicative content
1(b)	<p style="text-align: center;">AO1 (3 marks)/AO2 (9 marks)</p> <p>Marking instructions</p> <p>Markers must apply the descriptors in line with the general marking guidance and the qualities outlined in the levels-based mark scheme below.</p> <p>Responses that demonstrate only AO1 without any AO2 should be awarded marks as follows:</p> <ul style="list-style-type: none"> • Level 1 AO1 performance: 1 mark • Level 2 AO1 performance: 2 marks • Level 3 AO1 performance: 3 marks. <p>Indicative content guidance</p> <p>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:</p> <p>AO1</p> <ul style="list-style-type: none"> • mega-disasters are large-scale disasters on either an areal scale or in terms of their economic and human impact • they pose serious problems for successful management to minimise impact and mitigate the impact of the disaster • they need often require international management both short term and longer term <p>AO2</p> <ul style="list-style-type: none"> • extreme events are likely to pose serious challenges for any governance, however well-planned, e.g. the 2011 Japanese tsunami • extreme events are by their nature unpredictable (1- in a 1000-year events) and so prediction is difficult and prevention is impossible, sometimes secondary and tertiary outcomes occur, e.g. Fukushima • disaster management, pre-, during and after the event, can have a significant impact on losses, e.g. comparison of Japanese tsunami with Indian Ocean, Boxing Day tsunami • strong governance can lead to very effective management of immediate disaster recovery, e.g. Sichuan earthquake in China, as well as the development of longer-term education and community preparation strategies • however, management is expensive and with long return intervals there are strains on budgets that may affect levels of investment, e.g. San Francisco and 'the big one' • democratic governance is also often driven by short-term budgetary constraints which make saving money on management measures very tempting, given that it is expensive • governance is important but it has limitations such as the affordability of prediction and prevention measures, especially in the management of mega-disasters immediately after the event, e.g. Haiti, therefore,

Question number	Indicative content
	other factors such as level of development are likely to be more important.

Level	Mark	Descriptor
	0	No rewardable material.
Level 1	1-4	<ul style="list-style-type: none"> • 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 logical connections/relationships. (AO2) • Applies knowledge and understanding of geographical information/ideas to produce an interpretation with limited relevance and/or support. (AO2) • Applies knowledge and understanding of geographical information/ideas to make unsupported or generic judgements about the significance of few factors, leading to an argument is unbalanced or lacks coherence. (AO2)
Level 2	5-8	<ul style="list-style-type: none"> • Demonstrates geographical knowledge and understanding, which is mostly relevant and may include some inaccuracies. (AO1) • Applies knowledge and understanding of geographical information/ideas logically, making some relevant connections/relationships. (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) • Applies knowledge and understanding of geographical information/ideas to make judgements about the significance of some factors, to produce an argument that may be unbalanced or partially coherent. (AO2)
Level 3	9-12	<ul style="list-style-type: none"> • Demonstrates accurate and relevant geographical knowledge and understanding throughout. (AO1) • Applies knowledge and understanding of geographical information/ideas logically, making relevant connections/relationships. (AO2) • Applies knowledge and understanding of geographical information/ideas to produce a full and coherent interpretation that is relevant and supported by evidence. (AO2) • Applies knowledge and understanding of geographical information/ideas to make supported judgements about the significance of factors throughout the response, leading to a balanced and coherent argument. (AO2)

Question number	Answer
2(a)	<p style="text-align: center;">AO1 (3 marks)/AO2 (3 marks)</p> <p>Marking instructions</p> <p>Markers must apply the descriptors in line with the general marking guidance and the qualities outlined in the levels-based mark scheme below.</p> <p>Indicative content guidance</p> <p>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:</p> <p>AO1</p> <ul style="list-style-type: none"> • meltwater creates both erosional features and depositional features • depositional features dominate and tend to produce plains of outwash material, as water slows down and deposits its load • the features are inevitably complex and mixed with glacial features which are frequently modified by meltwater <p>AO2</p> <ul style="list-style-type: none"> • the meltwater from the proglacial lake may spill through the lower ground between ice front and higher ground carving a meltwater channel • the layers of material on the lake floor will be varved deposits as alternate winter and summer melting leads to banded deposits forming on the lake floor – little deposition in winter, much more in summer • The proglacial lake’s shoreline may have kames and terraces where it juxtaposes higher ground • There are signs of a kame delta where the ice front is in contact with the proglacial lake • There are discreet lumps of ice partially buried in the Outwash Plain when these melt they will form kettle holes which become kettle lakes in post-glacial times • The extensive proglacial flat area or outwash; plain is also known as sandur is formed from coarser, sandy deposits carried outwards from the edge of an ice sheet by anastomosing/braided meltwater streams that will have highly variable discharge and capacity

Level	Mark	Descriptor
	0	No rewardable material.
Level 1	1–2	<ul style="list-style-type: none"> • 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)
Level 2	3–4	<ul style="list-style-type: none"> • 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)
Level 3	5–6	<ul style="list-style-type: none"> • 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)

Question number	Answer
2(b)	<p style="text-align: center;">AO1 – (3 marks)/AO2 – (3 marks)</p> <p>Marking instructions</p> <p>Markers must apply the descriptors in line with the general marking guidance and the qualities outlined in the levels-based mark scheme below.</p> <p>Indicative content guidance</p> <p>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:</p> <p>AO1</p> <ul style="list-style-type: none"> • till fabric analysis reveals details both of ice direction and the provenance of the ice through the presence of erratics • the alignment of drumlins and other sub-glacial features reveals evidence of the speed and direction of ice flow • the position of marginal fluvioglacial (kames) and glacial (lateral moraines) affords evidence of ice thickness via trim lines • micro-features such as chatter marks and rock striations give important evidence of ice direction and speed • distinctions between ablation and lodgement till give evidence of ice speed and direction <p>AO2</p> <ul style="list-style-type: none"> • recessional and terminal moraines in Figure 2B shows the history of ice extent and retreat on this landscape • ground moraine on Figure 2B made up of till is widely distributed wherever ice has been • drumlin 'field' on Figure 2B also made up of till and extent limited by terminal moraine marking limit to impact of moving ice • fluvioglacial landforms, e.g sandur on Figure 2B can give evidence of the direction of meltwater, as the material is horizontally sorted with the largest deposits at the snout.

Level	Mark	Descriptor
	0	No rewardable material.
Level 1	1–2	<ul style="list-style-type: none"> • 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)
Level 2	3–4	<ul style="list-style-type: none"> • 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)
Level 3	5–6	<ul style="list-style-type: none"> • 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)

Question number	Answer
2 (c)	<p style="text-align: center;">A01 – (8 marks)</p> <p>Marking instructions</p> <p>Markers must apply the descriptors in line with the general marking guidance and the qualities outlined in the levels-based mark scheme below.</p> <p>Indicative content guidance</p> <p>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:</p> <ul style="list-style-type: none"> • systems consist of inputs, stores and outputs • inputs include accumulation from direct snowfall and other precipitation, blown snow and avalanches • store is the quantity of glacier ice that can be transferred down valley to the snout • outputs result from ablation by melting, sublimation and calving • mass balance results from the gains and losses in the ice store and is the difference between inputs and outputs • in a positive net balance, inputs are greater than outputs and in a negative net balance, outputs are greater than inputs • short-term, mass balances vary over a year and their cumulative impact longer term will determine whether the store will increase and the glacier advance or whether the store will decrease and the glacier decrease in size/retreat • systems help the understanding of glacier behaviour.

Level	Mark	Descriptor
	0	No rewardable material.
Level 1	1–2	<ul style="list-style-type: none"> • 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	3–5	<ul style="list-style-type: none"> • 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	6–8	<ul style="list-style-type: none"> • 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
2(d)	<p style="text-align: center;">AO1 (5 marks)/AO2 (15 marks)</p> <p>Marking instructions</p> <p>Markers must apply the descriptors in line with the general marking guidance and the qualities outlined in the levels-based mark scheme below.</p> <p>Responses that demonstrate only AO1 without any AO2 should be awarded marks as follows:</p> <ul style="list-style-type: none"> • 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. <p>Indicative content guidance</p> <p>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:</p> <p>AO1</p> <ul style="list-style-type: none"> • periglacial landscapes both active and relict are widely distributed and include substantial areas of permafrost • glaciated landscapes both active and relict include both upland and lowland landscapes formed by a variety of ice mass • both periglacial and glaciated landscapes can occur as active and relict environments • climate change will lead to increases in temperature and changes in precipitation, which will impact on both the size and movement of active glaciers and the occurrence of permafrost <p>AO2</p> <ul style="list-style-type: none"> • vulnerability suggests change – in this context, shorter term change over time • all landscapes change over time without environmental change, simply through the long-term operation of denudational processes • there is a wide variety of both glaciated and periglacial landscapes that will be subject to change, to a greater or lesser degree • the degree of change can be related not only to the type of landscape but also to the scale and pace of climate change • the impacts of climate change are difficult to predict and there are significant regional variations that will impact on these landscapes accordingly, with some of the most significant impacts occurring in both Polar and Alpine environments • mountain landscapes are inherently more fragile than lowland landscapes simply through gravity, so will be more sensitive to changes in climate than lowland regions • short-term climate changes are less likely to affect relict glacial and periglacial landscapes in the sense that there will be modifications rather than dramatic change, such as periglacial processes

Question number	Answer
	<ul style="list-style-type: none"> active periglacial and active glacial areas will show much more substantial landscape changes although in the case of periglacial landscapes, these will not translate into such dramatic surface changes.

Level	Mark	Descriptor
	0	No rewardable material.
Level 1	1–5	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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	Mark	Descriptor
Level 4	16–20	<ul style="list-style-type: none"> • 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	Answer
3(a)(i)	<p style="text-align: center;">AO1 (3 marks)/AO2 (3 marks)</p> <p>Marking instructions</p> <p>Markers must apply the descriptors in line with the general marking guidance and the qualities outlined in the levels-based mark scheme below.</p> <p>Indicative content guidance</p> <p>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:</p> <p>AO1</p> <ul style="list-style-type: none"> • cliff profiles are a consequence of wave attack, subaerial processes and the nature of the material • wave action undercuts cliffs through abrasion and hydraulic action • softer and more jointed rocks will erode more rapidly because of lower levels of physical strength and cohesion and smaller surface areas • beaches can act as 'shock absorbers' to dissipate wave energy and protect cliff lines <p>AO2</p> <ul style="list-style-type: none"> • this cliff is low – about 6 metres and low angled, suggesting rapid erosion rates • the boulder clay shown is a soft and relatively easily eroded material • the impact of abrasion employing the large boulders, seen in the photograph, that are a consequence of erosion, will make cliff erosion very rapid • there are clear signs of rotational slumping on the cliffs, suggesting that subaerial processes are significantly de-stabilised by wave action at the cliff base.

Level	Mark	Descriptor
	0	No rewardable material.
Level 1	1–2	<ul style="list-style-type: none"> • 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)
Level 2	3–4	<ul style="list-style-type: none"> • 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)
Level 3	5–6	<ul style="list-style-type: none"> • 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)

Question number	Answer
3(a)(ii)	<p style="text-align: center;">A01 (3 marks/A02 (3 marks))</p> <p>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.</p> <p>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:</p> <p>A01</p> <ul style="list-style-type: none"> • structure involves the disposition of rock and its bedding planes which determines its strength and the surface area exposed to wave erosion and subaerial processes • structure involves the jointing of rocks which will also impact on surface area and the physical resistance of rocks to erosion • lithology is the hardness or rock strength/make up • rock hardness affects its resistance to wave processes • lithology will also determine the porosity of rocks <p>A02</p> <ul style="list-style-type: none"> • photograph suggests that sandstone is relatively resistant – high cliffs (12 metres) • the cliffs shown are steep/quasi-vertical, suggesting resistance • the large, flat-slabbed boulders on beach suggest both high strength and limited jointing • the photograph suggests that sandstone is horizontally bedded • the variation of the profile (notch) shown suggests impact of differential erosion either because of the contrasting geology and/or wave action.

Level	Mark	Descriptor
	0	No rewardable material.
Level 1	1–2	<ul style="list-style-type: none"> • 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)
Level 2	3–4	<ul style="list-style-type: none"> • 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)
Level 3	5–6	<ul style="list-style-type: none"> • 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)

Question number	Answer
3(b)	<p style="text-align: center;">AO1 (8 marks)</p> <p>Marking instructions</p> <p>Markers must apply the descriptors in line with the general marking guidance and the qualities outlined in the levels-based mark scheme below.</p> <p>Indicative content guidance</p> <p>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:</p> <ul style="list-style-type: none"> • the processes of erosion, transportation and deposition within the coastal margin is largely contained in sediment cells or littoral cells • so coastal systems are largely self-contained • there are both onshore and offshore processes which contribute to the sediment cells, influencing the size of store • there are 11 large sediment cells in England and Wales • a sediment cell is generally thought to be a closed system, which suggests that no sediment is transferred from one cell to another • the boundaries of sediment cells are determined by the topography and shape of the coastline, with a major role played by peninsulas • these act as natural barriers that prevent the transfer of sediment from one cell to another • in reality, however, it is unlikely that sediment cells are fully closed with variations in wind direction and tidal currents, meaning that there is some transfer between cells. Fine material is most likely to be transported between sediment cells • there are also many sub-cells of a smaller scale existing within the major cells.

Level	Mark	Descriptor
	0	No rewardable material.
Level 1	1–2	<ul style="list-style-type: none"> • 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	3–5	<ul style="list-style-type: none"> • 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	6–8	<ul style="list-style-type: none"> • 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
3(c)	<p style="text-align: center;">AO1 (5 marks)/AO2 (15 marks)</p> <p>Marking instructions</p> <p>Markers must apply the descriptors in line with the general marking guidance and the qualities outlined in the levels-based mark scheme below.</p> <p>Responses that demonstrate only AO1 without any AO2 should be awarded marks as follows:</p> <ul style="list-style-type: none"> • 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. <p>Indicative content guidance</p> <p>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:</p> <p>AO1</p> <ul style="list-style-type: none"> • coastal landscapes are made up of an assemblage of landforms that have developed over time – some in the short term, e.g. beach cusps, some over a much longer term, e.g. headland and bays • coastal landscapes are affected by the nature of the coastline before sea-level change, e.g. whether it is glaciated or not, which will affect the rate of erosion and deposition • the topography of the coastline is important – steep as opposed to low-lying coastal regions • the disposition of rocks, concordant or discordant, will affect the development of particular landforms • the direction of sea-level change (i.e. positive or negative) will have significant impact on the type of landscape that develops <p>AO2</p> <ul style="list-style-type: none"> • submergence of coasts results from a relative rise in sea level and results in a variety of flooded valleys changing the shape and form of coastlines and, inevitably the landforms • emergence of coasts results from a relative fall in sea level, resulting in a variety of features such as offshore bars, raised beaches and fossil cliff lines. • coastal landscapes are a consequence of a complex history of relative change so both emergent and submerged features can be found in the same areas, e.g. Scotland with fjords and raised beaches • sea-level change is both short term and long term with short-term changes involving a tidal range, e.g. between spring and neap tides, that has a significant impact on landform formation. Short-term sea-level changes create daily changes to some coastal landforms, especially beaches • storm surges will also increase sea levels in the short term and have a significant impact on the creation of landforms, which can be dramatic, e.g. Hurricane Katrina • longer-term changes are a result of a complex combination of eustatic,

Question number	Answer
	<p>isostatic and sometimes tectonic movements which result in landscape changes, e.g. post-glacial sea-level rise</p> <ul style="list-style-type: none"> • sea-level changes both short term and long term suggest that coastal landforms are in dynamic equilibrium with the processes that create them.

Level	Mark	Descriptor
	0	No rewardable material.
Level 1	1–5	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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	Mark	Descriptor
Level 3	16–20	<ul style="list-style-type: none"> • 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	Answer	Mark
4(a)	<p style="text-align: center;">AO1 – (2 marks)/AO2 – (1 marks)</p> <p>Award 1 mark for analysing the resource to identify a possible reason why abstraction of groundwater could become a problem and a further 2 marks expansion up to a maximum of 3 marks. For example:</p> <ul style="list-style-type: none"> • Over-abstraction of water can lead to shortages (1) as 500 mm of rainfall (1) combined with high temperatures at 25° C (1) means that water is not replenished. • Two sources of water supply have disappeared or are not available (1) as the supply from the cryosphere is no longer available as the glaciers have melted (1) and the fossil groundwater is a finite source and not reachable (1). • There is limited availability of groundwater supply (1) as the granite is impermeable and has no storage (1) so much of the rainfall runs overland as storm flow (1) into a salt lake so is not usable. 	(3)

Question number	Answer
4(b)	<p style="text-align: center;">AO1 (6 marks)</p> <p>Marking instructions</p> <p>Markers must apply the descriptors in line with the general marking guidance and the qualities outlined in the levels-based mark scheme below.</p> <p>Indicative content guidance</p> <p>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:</p> <p>River regimes indicate the annual variations on discharge in the river. They vary because of:</p> <p>Climate</p> <ul style="list-style-type: none"> • amount and seasonal distribution of rainfall, i.e. input • temperature which determines the rate of evapotranspiration, i.e. output • temperatures below freezing lead to a suspension of flow <p>Geology</p> <ul style="list-style-type: none"> • porous or pervious rocks (permeable) act as aquifers, i.e. groundwater storage, so water is released slowly through the system, leading to a very steady regime • impermeable geology can lead to a very variable and quick response regime, with peaks following periods of heavy rain • deep soils can also store water, again leading to a steady regime • size of basin. Large river basins have complex regimes as they cross many climatic types, e.g. the major impact of the Blue Nile meeting the White Nile.

Level	Mark	Descriptor
	0	No rewardable material.
Level 1	1–2	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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
4(c)	<p style="text-align: center;">AO1 (8 marks)</p> <p>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.</p> <p>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:</p> <ul style="list-style-type: none"> • water insecurity is a consequence of a finite supply (physical) and a growing demand (human), creating water scarcity • water stress occurs when supply is less than 1700 m³ per person and water scarcity occurs when supply is less than 1200 m³ per person • water quality and utility can be affected by salt encroachment and contamination • there are global variations in this pattern, with local insecurities reflecting both human and physical factors • decreasing global supplies of a finite resource can be related to short-term climate change • climate change may have human triggers, whereas El Niño events are more likely to have physical causes • increased unpredictability and periods of drought are associated with climate change • salt contamination is largely a physical factor resulting from rising sea levels, but human-induced climate change may have contributed to rising sea levels • rising demands are all human induced • pollution of water supplies from agriculture/industry/domestic use again influences availability – a human factor • rising demand of emerging economies is increasing water use, rising populations and living standards and industrialisation • over-abstraction from rivers, lakes and reservoirs, largely for agriculture, industrial and consumer use • the bottom billion may have access to water but cannot afford to pay for it, i.e. economic scarcity. While the number of people in absolute poverty worldwide is decreasing, for LDCs there is an increasing risk of insecurity as governments or communities cannot afford water.

Level	Mark	Descriptor
	0	No rewardable material.
Level 1	1–3	<ul style="list-style-type: none"> • 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	4–6	<ul style="list-style-type: none"> • 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	7–8	<ul style="list-style-type: none"> • 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
4(d)	<p style="text-align: center;">AO1 (3 marks)/AO2 (9 marks)</p> <p>Marking instructions</p> <p>Markers must apply the descriptors in line with the general marking guidance and the qualities outlined in the levels-based mark scheme below.</p> <p>Responses that demonstrate only AO1 without any AO2 should be awarded marks as follows:</p> <ul style="list-style-type: none"> • Level 1 AO1 performance: 1 mark • Level 2 AO1 performance: 2 marks • Level 3 AO1 performance: 3 marks. <p>Indicative content guidance</p> <p>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:</p> <p>AO1</p> <ul style="list-style-type: none"> • overall, climate warming will accelerate in the Arctic at an increasing rate which, given the large area of global permafrost, is very significant for future climate change • some forecasts suggest warming as much as 5° C by the end of this century • melting snow cover will decrease albedo which in turn will impact on the amount of solar energy re-radiated • increased vegetation might also impact on the Earth’s albedo, creating darker, more absorbent, surfaces • heading towards tipping point, which will disrupt fluxes and sinks in future and be irreversible whatever controls on carbon emissions are imposed • uncertainty over rate of these processes and therefore the onset of ‘tipping point’ <p>AO2</p> <ul style="list-style-type: none"> • there is a positive feedback loop indicated on diagram, showing key effect of climate warming will be to heat up air temperatures, which will, in time, lead to increased vegetation cover that will change albedo and so increase air temperatures further • three greenhouse gases shown on diagram – with methane perhaps being the most significant but there will also be changes in carbon dioxide (CO₂) and nitrous oxide (NO) • the different peat depths indicated on diagram will undergo different rates of change e.g. warming will increase activity of microbes resulting in a release of nitrous oxide, a potent greenhouse gas, with significant impacts on soil stores over years/decades • the positive feedback loop shown on the diagram will grow over a long period of time (centuries/millennia) in which the melting of the permafrost will release significant quantities of greenhouse gases such as methane

Question number	Answer
	<ul style="list-style-type: none">• in the tundra environment shown on the diagram, increases in vegetation may also increase evapotranspiration but likely increased photosynthesis rates could actually strengthen carbon sinks, as carbon is sequestered during photosynthesis• as all elements are interlinked, these changes will lead to very significant impact on the components of the carbon cycle shown in the diagram.

Level	Mark	Descriptor
	0	No rewardable material.
Level 1	1–4	<ul style="list-style-type: none"> • 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 logical connections/relationships. (AO2) • Applies knowledge and understanding of geographical information/ideas to produce an interpretation with limited relevance and/or support. (AO2) • Applies knowledge and understanding of geographical information/ideas to make unsupported or generic judgements about the significance of few factors, leading to an argument is unbalanced or lacks coherence. (AO2)
Level 2	5–8	<ul style="list-style-type: none"> • Demonstrates geographical knowledge and understanding, which is mostly relevant and may include some inaccuracies. (AO1) • Applies knowledge and understanding of geographical information/ideas logically, making some relevant connections/relationships. (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) • Applies knowledge and understanding of geographical information/ideas to make judgements about the significance of some factors, to produce an argument that may be unbalanced or partially coherent. (AO2)
Level 3	9–12	<ul style="list-style-type: none"> • Demonstrates accurate and relevant geographical knowledge and understanding throughout. (AO1) • Applies knowledge and understanding of geographical information/ideas logically, making relevant connections/relationships. (AO2) • Applies knowledge and understanding of geographical information/ideas to produce a full and coherent interpretation that is relevant and supported by evidence. (AO2) • Applies knowledge and understanding of geographical information/ideas to make supported judgements about the significance of factors throughout the response, leading to a balanced and coherent argument. (AO2)

Question number	Answer
4(e)	<p style="text-align: center;">AO1 (5 marks)/AO2 (15 marks)</p> <p>Marking instructions</p> <p>Markers must apply the descriptors in line with the general marking guidance and the qualities outlined in the levels-based mark scheme below.</p> <p>Responses that demonstrate only AO1 without any AO2 should be awarded marks as follows:</p> <ul style="list-style-type: none"> • 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. <p>Indicative content guidance</p> <p>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:</p> <p>AO1</p> <ul style="list-style-type: none"> • Growing demand for energy leads to changes in land use cover (largely deforestation but some afforestation) • Growing use of energy creates increased greenhouse gases, which impacts on carbon emissions • Some energy developments are more complex, such as the development of biofuel: conversion of forest to farmland for biofuels and growth of renewables offers some hope of a reduction in emissions • Other human factors also modify the carbon cycle, especially land use changes causing deforestation and changes to the chemistry and temperature of oceans, which may disrupt their role in the carbon cycle <p>AO2</p> <ul style="list-style-type: none"> • there are two major factors modifying the carbon cycle – the burning of fossil fuels and deforestation – yet the evaluation of their relative importance is challenging • the growing demand for energy is a significant cause in modifying the carbon cycle and is largely a function of economic growth, which remains a priority for most governments despite the clear environmental impacts and risks associated • fossil fuels still dominate the global economy and there is little sign of change, despite some growth of renewables • importantly, oil drives the transport systems and coal remains the most important primary source for the production of electricity – reductions in energy prices in recent years have been welcomed by many, so there is no check to rising demand • most emerging countries are using significantly more fossil fuels each year as they grow with rates of energy usage, running slightly ahead of economic growth rates so with economic growth remaining as the priority for global organisations, increasing demand is likely to continue • many methods of energy extraction produce high levels of carbon

Question number	Answer
	<p>emissions, including relatively new sources as the era of readily accessible, 'cheap' energy passes – e.g. tar sands, oil shale, fracking</p> <ul style="list-style-type: none"> • however, land-use changes, especially deforestation, are significant and not a consequence of increasing demand for energy although there are exceptions – palm oil and biofuel exploitation • most land-use changes are a consequence of increases in agricultural land, unrelated to energy exploitation, although they are related to changing diets and higher living standards • the increased intensification of agriculture associated with land-use changes does have an impact on energy usage in those systems which, in turn, reinforces the role of increasing demand for energy • however, some modern energy extraction methods, e.g. oil shale, tar sands and mountain-top removal, as well as the deforestation to make way for biofuel developments are significant contributors to land-use changes, reinforcing the importance of energy demand • by most assessments, the burning of fossil fuels is the primary cause of anthropogenic climate change and therefore impacts on other systems, e.g. ocean temperature which, in turn, impacts on the carbon cycle • the burning of fossil fuels has major knock-on effects on the working of the carbon cycle but other factors, such as quarrying of rocks and peat extraction and land use changes for food production, also have significant impacts.

Level	Mark	Descriptor
	0	No rewardable material.
Level 1	1–5	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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	Mark	Descriptor
Level 4	16–20	<ul style="list-style-type: none"> • 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
Level 3

Centre Number

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Candidate Number

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Geography

Advanced
Paper 2

Sample assessment material for first teaching
September 2016

Time: 2 hours 15 minutes

Paper Reference

9GE0/02

You must have:

Ruler, calculator, the Resource Booklet enclosed

Total Marks

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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 **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.*
- Calculators may be used.
- Any **calculations** must show all stages of **working out** and a **clear answer**.

Information

- The total mark for this paper is 105.
- 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.

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PEARSON

SECTION A: GLOBALISATION/SUPERPOWERS

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

You must use the Resource Booklet provided.

- 1** (a) Explain why globalisation results in cultural erosion in some parts of the world. (4)

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(b) Assess the impact of TNCs (transnational corporations) on creating both winners and losers for people and environments.

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(Total for Question 1 = 16 marks)

2 (a) Explain why defence spending is seen as crucial to the development of superpower status.

(4)

(b) Assess to what extent the superpowers' rising demand for physical resources has led to both environmental and political challenges.

(12)

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(Total for Question 2 = 16 marks)

TOTAL FOR SECTION A = 32 MARKS

SECTION B: SHAPING PLACES

Answer ONE question in this section – EITHER Question 3 OR Question 4.

Re-generating Places

If you answer Question 3 put a cross in box .

You must use the Resource Booklet provided.

3 Study Figure 1.

(a) (i) Suggest **one** reason for the pattern of vacant land in Detroit.

(3)

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(ii) Suggest reasons for the relationship between proportion of vacant land and distance from the CBD of Detroit.

(6)

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(b) Explain why different groups would have contrasting views about regenerating vacant land in cities.

(6)

(c) Evaluate the importance of rebranding to the success of rural regeneration.

(20)

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(Total for Question 3 = 35 marks)

TOTAL FOR SECTION B = 35 MARKS

Do not answer Question 4 if you have answered Question 3.

Diverse Places

If you answer Question 4 put a cross in this box .

You must use the Resource Booklet provided.

4 (a) Study Figure 2.

- (i) Suggest one reason why recently-arrived Asians tend to live in the area indicated.

(3)

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(ii) Suggest why some areas in Chicago have a greater degree of ethnic segregation than others.

(6)

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(b) Explain why there are different perceptions of an urban area's attractiveness as a living space.

(6)

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(c) Evaluate the view that successful urban management for some is likely to be unsuccessful for others.

(20)

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(Total for Question 4 = 35 marks)

TOTAL FOR SECTION B = 35 MARKS

SECTION C: GLOBAL DEVELOPMENT AND CONNECTIONS

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

Health, Human Rights and Intervention

If you answer Question 5 put a cross in box .

5 Study Figure A below.

Country	Malawi	Nigeria	India	Egypt	Iran	Czech Republic	France	United States	Norway
Human Development Index	0.43	0.50	0.58	0.68	0.75	0.85	0.88	0.91	0.94
Gini Coefficient	0.43	0.48	0.34	0.30	0.38	0.26	0.32	0.40	0.25

Figure A: Table showing the Human Development Index and the Gini Coefficient scores for selected countries.

(a) Using the data from Figure A, complete Figure B by:

(i) plotting the data for Egypt, Iran and the Czech Republic.

(3)

(ii) drawing a regression (best-fit) line to show the relationship.

(1)

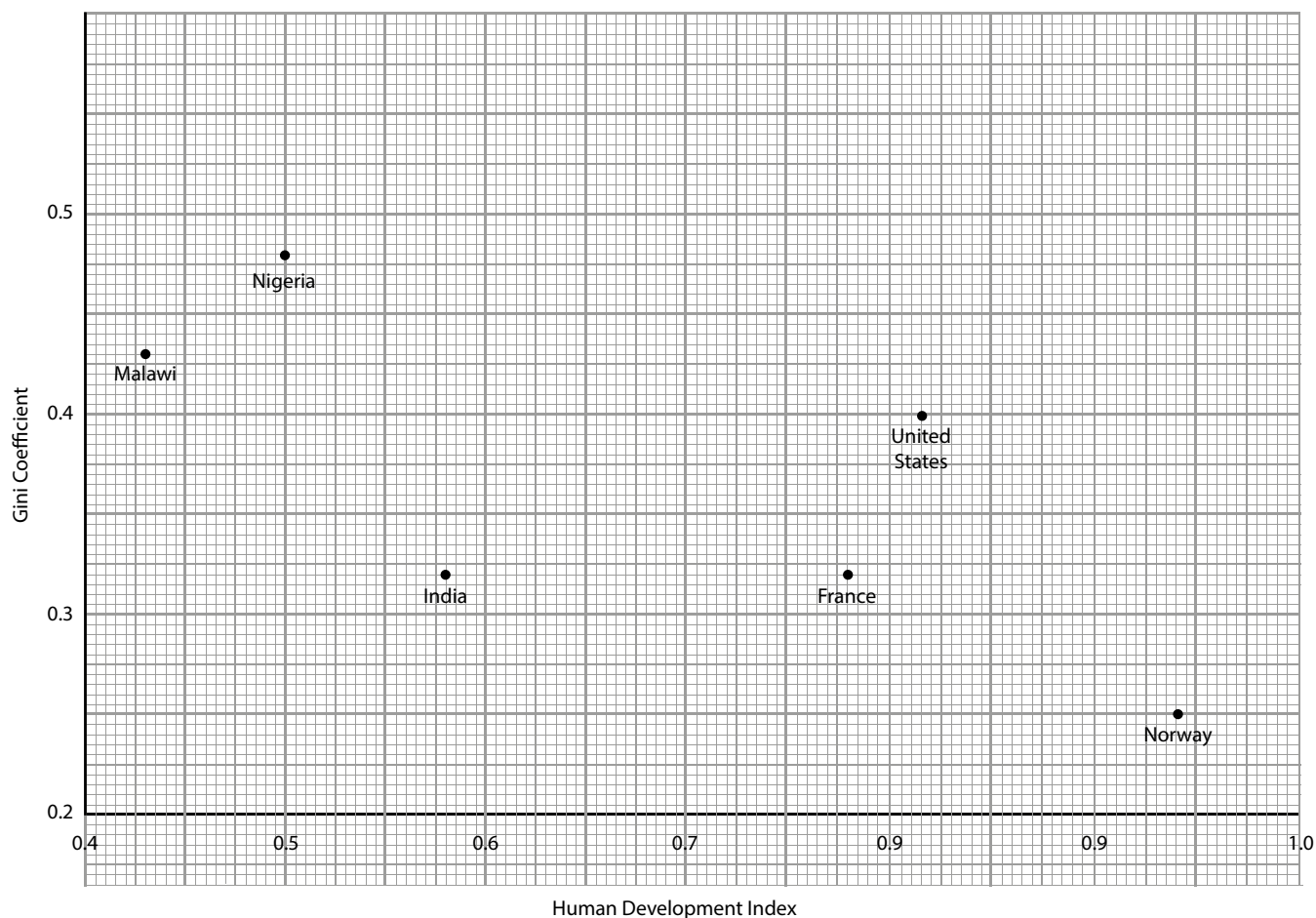


Figure B: Graph showing the Human Development Index and the Gini Coefficient scores for selected countries

(b) Suggest reasons for the relationship between Human Development Index and Gini Coefficient scores.

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(c) Explain why levels of life expectancy vary both in and between countries.

(8)

(d) Evaluate this statement:

'Geopolitical interventions more often reduce rather than improve human rights.'

(20)

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(Total for Question 5 = 38 marks)

SECTION C: GLOBAL DEVELOPMENT AND CONNECTIONS

Do not answer Question 6 if you have answered Question 5.

Migration, Identity and Sovereignty

If you answer Question 6 put a cross in this box .

6 Study Figure C below.

Country	Malawi	Nigeria	India	Egypt	Iran	Czech Republic	France	United States	Norway
Human Development Index	0.43	0.50	0.58	0.68	0.75	0.85	0.88	0.91	0.94
% of foreign born residents	1.3%	0.7%	0.4%	0.4%	3.5%	4.0%	11.5%	14.3%	11.8%

Figure C: Table showing the Human Development Index and the percentage of foreign-born residents in selected countries.

- (a) Using the data from Figure C, complete Figure D by:
- (i) plotting the data for Egypt, Iran and the Czech Republic (3)
 - (ii) drawing a regression (best-fit) line to show the relationship. (1)

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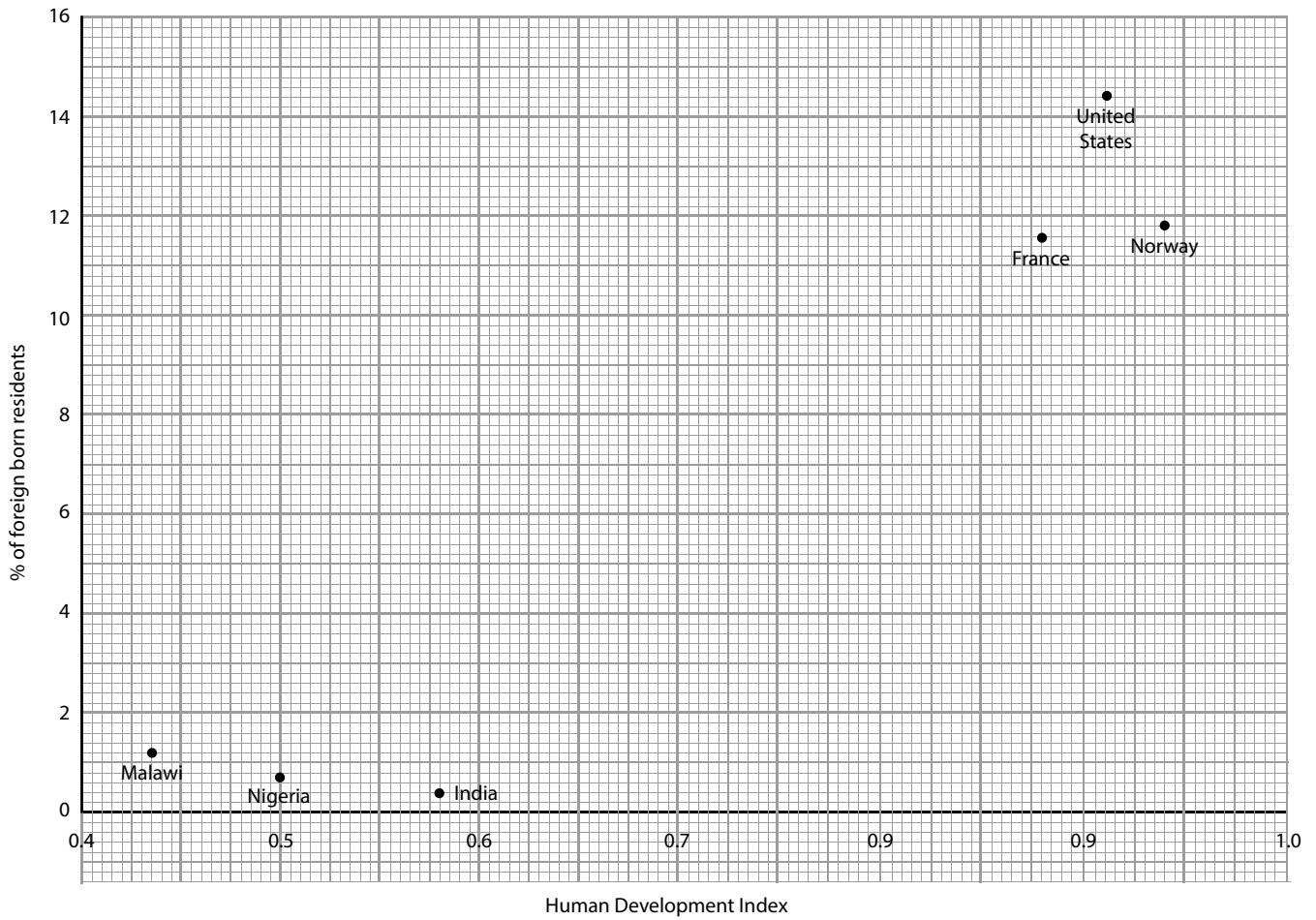


Figure D: Graph showing the Human Development Index and the percentage of foreign born residents in selected countries

(b) Suggest reasons for the relationship between Human Development Index scores and the percentage of foreign-born residents.

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(c) Explain the role of global organisations in managing the global economy.

(8)

(d) Evaluate this statement:

'In a globalising world, national sovereignty becomes less important.'

(20)

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(Total for Question 6 = 38 marks)

TOTAL FOR SECTION C = 38 MARKS

TOTAL FOR PAPER = 105 MARKS

Pearson Edexcel Level 3 GCE

Geography

Advanced Paper 2

Sample assessment material for first teaching
September 2016
Resource Booklet

Paper Reference
9GE0/02

Do not return this Resource Booklet with the question paper.

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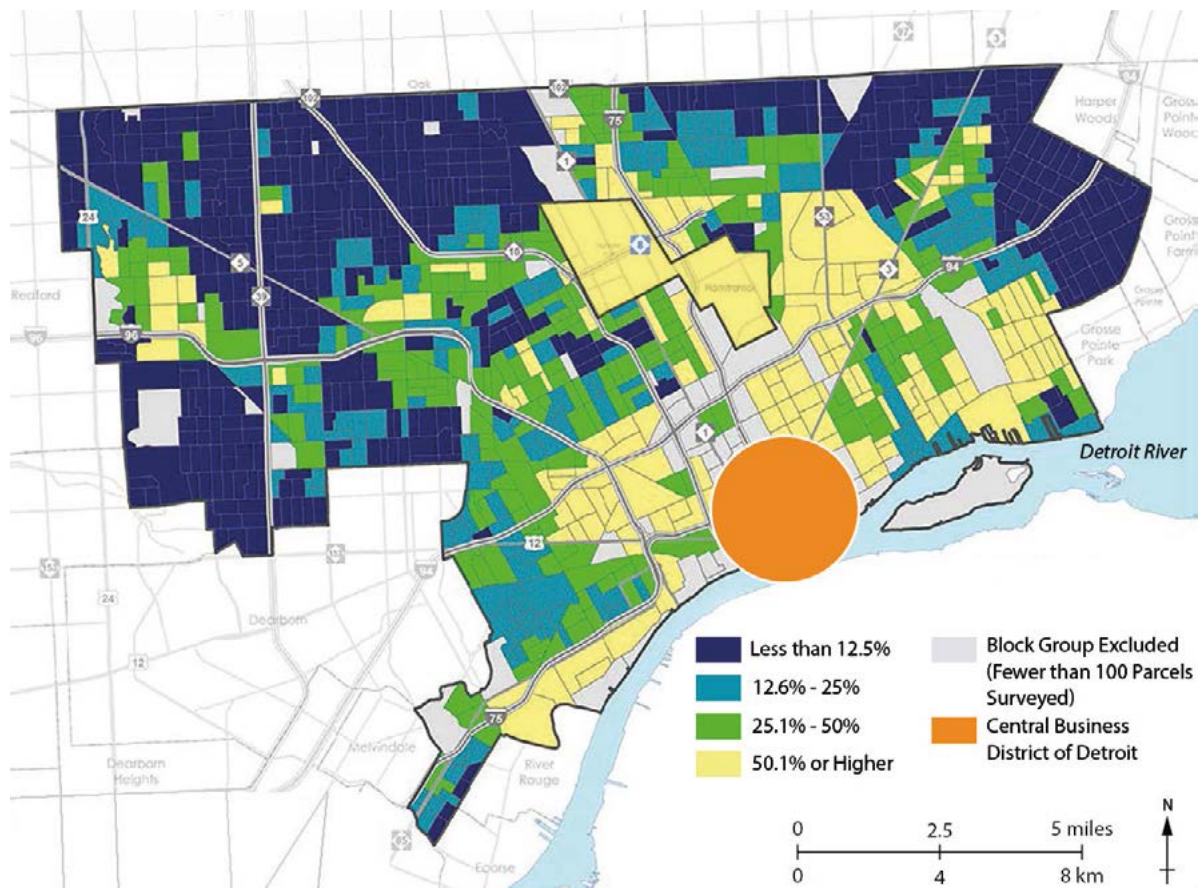
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The following resource relates to Question 3.

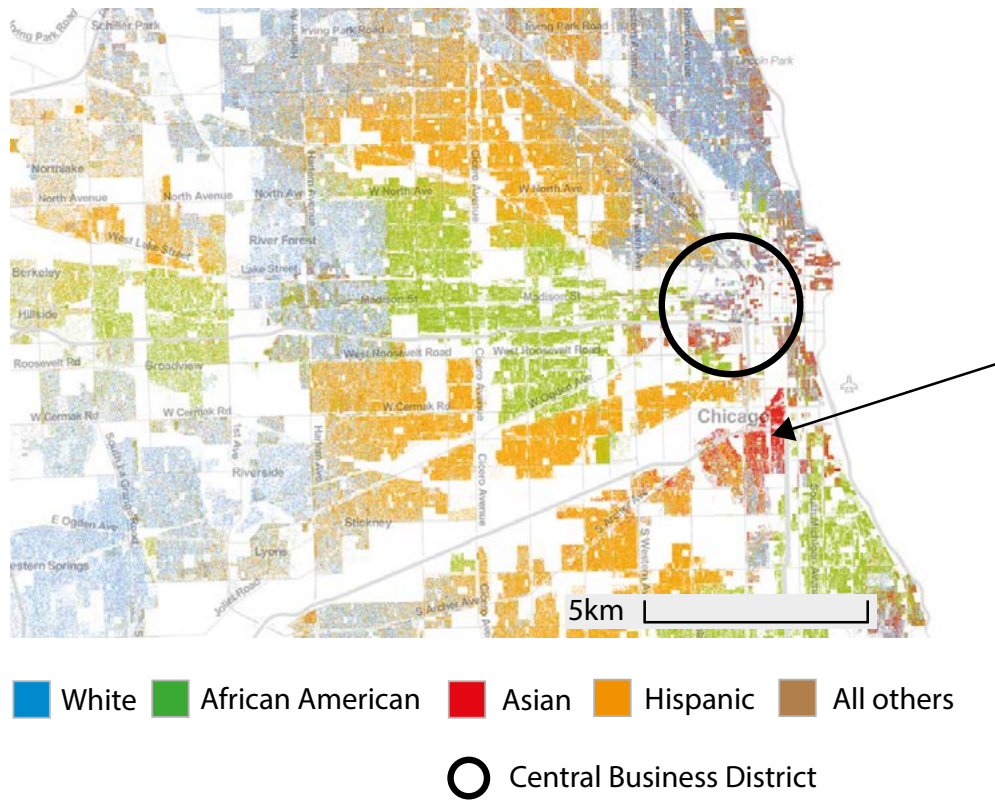


(Source: U.S. Census Bureau)

Figure 1:

A map showing vacant land in Detroit (USA)

The following resource relates to Question 4.



(Source: <http://www.wired.com/2013/08/how-segregated-is-your-city-this-eye-opening-map-shows-you/#slideid-210391>)

Figure 2:

A map showing ethnic segregation in part of Chicago, (USA)

Paper 2 mark scheme

Question number	Answer	Mark
1(a)	<p style="text-align: center;">AO1 (4 marks)</p> <p>Award 1 mark for identifying a reason why globalisation creates cultural erosion, and a further 3 marks for expansion up to a maximum of 4 marks.</p> <p>For example:</p> <ul style="list-style-type: none"> • TNCs bring new products and services (1), which often includes largely western cultural ideas (1) which can push out local industries (1) resulting in the gradual disappearance of traditional artefacts/services/languages (1) • Joining global production chains (1) leads to environmental changes/pollution (1) which can result in loss of natural habitats (1) which can diminish traditional practices for hunter/gatherer communities (1). <p>Accept any other appropriate response.</p>	(4)

Question number	Answer
1(b)	<p style="text-align: center;">AO1 (3 marks)/AO2 9 marks)</p> <p>Marking instructions</p> <p>Markers must apply the descriptors in line with the general marking guidance and the qualities outlined in the levels-based mark scheme below.</p> <p>Responses that demonstrate only AO1 without any AO2 should be awarded marks as follows:</p> <ul style="list-style-type: none"> • Level 1 AO1 performance: 1 mark • Level 2 AO1 performance: 2 marks • Level 3 AO1 performance: 3 marks. <p>Indicative content guidance</p> <p>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:</p> <p>AO1</p> <ul style="list-style-type: none"> • TNCs, given that they are trans-national, are at the core of globalisation and profit from the movement towards free trade and lobby for privatisation, deregulation and free trade • they profit from free-market liberalisation and privatisation because it increases their sales and reduces their costs • there are benefits for the owners/shareholders of TNCs • there may be benefits for the workforce and citizens in communities in both developed and developing countries • there will also be costs in both developed and developing countries which may be environmental but also social and economic <p>AO2</p> <ul style="list-style-type: none"> • corporations' are profit driven by definition and seek to cut costs hence the importance of outsourcing which brings jobs but they are often poorly paid

Question number	Answer
	<ul style="list-style-type: none"> • however, some argue that poorly-paid jobs are simply a stage that all developing countries will pass through and thus may produce more 'winners' in the long run • large energy and mineral extraction corporations have especially poor environmental reputations and, given that they are capitally intensive, they bring very few jobs so perhaps more losers than winners • environmental impacts often are more subtle, but nevertheless can be significant and long term, e.g. loss of biodiversity due to Tar Sand production in Canada and contamination of water supplies bringing greater health risks for local people • the economic benefit of TNCs is dependent on attitudes within host governments to taxation and licence agreements, e.g. Ecuador under Correa, Bolivia under Morales, which can bring positive benefits • economic benefits often shadow environmental concerns leading to contested spaces • economic benefits can also help fund social projects that can improve the quality of lives through improvements in rural health care, education and the protection of indigenous groups • TNCs play a key role in cultural diffusion, which can be seen as a curse by some but a benefit by others – they can bring benefits and increase cultural diversity through glocalisation • given that TNCs can operate only with the approval of countries' governments there are obviously some who benefit – frequently local elites • there are nuanced impacts of TNCs in their 'home' countries – profits are significant and play a key role in wealth creation for pensions and insurance companies which benefit some • however, many jobs are lost, leading to deindustrialisation (e.g. Detroit and the rustbelt) and falling incomes, so a benefit for some but a curse for others • the role of TNCs in the growth of globalisation is central and unequivocal but their impacts are far more contested, with anti-globalisation groups concentrating on the negative elements while the dominant ideology of global institutions sees them as more benign.

Level	Mark	Descriptor
	0	No rewardable material.
Level 1	1–4	<ul style="list-style-type: none"> • 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 logical connections/relationships. (AO2) • Applies knowledge and understanding of geographical information/ideas to produce an interpretation with limited relevance and/or support. (AO2) • Applies knowledge and understanding of geographical information/ideas to make unsupported or generic judgements about the significance of few factors, leading to an argument is unbalanced or lacks coherence. (AO2)
Level 2	5–8	<ul style="list-style-type: none"> • Demonstrates geographical knowledge and understanding, which is mostly relevant and may include some inaccuracies. (AO1) • Applies knowledge and understanding of geographical information/ideas logically, making some relevant connections/relationships. (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) • Applies knowledge and understanding of geographical information/ideas to make judgements about the significance of some factors, to produce an argument that may be unbalanced or partially coherent. (AO2)
Level 3	9–12	<ul style="list-style-type: none"> • Demonstrates accurate and relevant geographical knowledge and understanding throughout. (AO1) • Applies knowledge and understanding of geographical information/ideas logically, making relevant connections/relationships. (AO2) • Applies knowledge and understanding of geographical information/ideas to produce a full and coherent interpretation that is relevant and supported by evidence. (AO2) • Applies knowledge and understanding of geographical information/ideas to make supported judgements about the significance of factors throughout the response, leading to a balanced and coherent argument. (AO2)

Question number	Answer	Mark
2(a)	<p style="text-align: center;">A01 (4 marks)</p> <p>Award 1 mark for identifying a reason why defence spending is seen as crucial, and a further 3 marks for expansion up to a maximum of 4 marks. For example:</p> <ul style="list-style-type: none"> • Defence spending is critical to the exercise of hard power (1) because it enables territorial expansion and/or the protection of current territory (1), which in turn brings wealth through acquisition of resources (1), allowing the maintenance/growth of the economy needed to develop superpower status (1). <p>Accept any other appropriate response.</p>	(4)

Question number	Answer
2(b)	<p style="text-align: center;">AO1 (3 marks)/AO2 (9 marks)</p> <p>Marking instructions</p> <p>Markers must apply the descriptors in line with the general marking guidance and the qualities outlined in the levels-based mark scheme below.</p> <p>Responses that demonstrate only AO1 without any AO2 should be awarded marks as follows:</p> <ul style="list-style-type: none"> • Level 1 AO1 performance: 1 mark • Level 2 AO1 performance: 2 marks • Level 3 AO1 performance: 3 marks. <p>Indicative content guidance</p> <p>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:</p> <p>AO1</p> <ul style="list-style-type: none"> • there is a variety of political and environmental challenges, which exist both domestically and internationally, – direct political challenges to military power over key resources (especially oil), challenges to independence of political action (Russia versus Ukraine), challenges of the environmental impact of exploiting a contested resource base • physical resources include land and water as well as minerals and energy • no superpower is self-sufficient in physical resources but they vary in their dependency on imports to maintain their economies • environmental and political challenges exist both domestically and internationally <p>AO2</p> <ul style="list-style-type: none"> • the governments and political elites of the superpowers need to legitimate power by maintaining economic growth or they face internal political challenges to the ruling elite/government that may lead to change • the maintenance of economic growth will inevitably lead to environmental change, much of it negative through increased consumption in itself (the growth of car ownership in China) but also the extraction of the necessary resources to manufacture those resources • there are clearly short-term environmental challenges (pollution of waterways in east and south Asia) but also potentially more serious long-term consequences through habitat destruction and the production of greenhouse gases • there is a clear relationship between environmental concerns and the health of the economy, which can have political repercussions – in times of boom then environmental concerns have a high public profile but in times of economic recession/depression the environment is rarely central to the political debate • superpowers have been active in searching out global resources using TNCs as an instrument of extending their control (US oil companies in Ecuador, Alcoa in Jamaica, Africa’s new imperialist era) but this is politically sensitive as agreements are sought with foreign

Question number	Answer
	<p>governments who may lack the support of many of their own people (e.g. Nigeria)</p> <ul style="list-style-type: none"> • superpowers use both soft and hard power to establish control of resources (US in Iraq, China in Angola) and this results in political challenges and tensions between superpowers • the agencies of controlling the supply of physical resources are largely TNCs, who have complex relationships with the governments and people of both the superpowers and resource rich countries • exploitation of physical resources on the domestic territory of superpowers will also impact negatively on the environment and thus political legitimacy domestically especially in areas affected – fracking, oil shale exploitation and deep-water oil drilling are obvious examples • there are significant political challenges to the growth model that dominates in all superpowers (rise of green politics) with the challenges, especially the environmental impacts perceived as being both inevitable but also ultimately overwhelming

Level	Mark	Descriptor
	0	No rewardable material.
Level 1	1–4	<ul style="list-style-type: none"> • 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 logical connections/relationships. (AO2) • Applies knowledge and understanding of geographical information/ideas to produce an interpretation with limited relevance and/or support. (AO2) • Applies knowledge and understanding of geographical information/ideas to make unsupported or generic judgements about the significance of few factors, leading to an argument is unbalanced or lacks coherence. (AO2)
Level 2	5–8	<ul style="list-style-type: none"> • Demonstrates geographical knowledge and understanding, which is mostly relevant and may include some inaccuracies. (AO1) • Applies knowledge and understanding of geographical information/ideas logically, making some relevant connections/relationships. (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) • Applies knowledge and understanding of geographical information/ideas to make judgements about the significance of some factors, to produce an argument that may be unbalanced or partially coherent. (AO2)
Level 3	9–12	<ul style="list-style-type: none"> • Demonstrates accurate and relevant geographical knowledge and understanding throughout. (AO1) • Applies knowledge and understanding of geographical information/ideas logically, making relevant connections/relationships. (AO2) • Applies knowledge and understanding of geographical information/ideas to produce a full and coherent interpretation that is relevant and supported by evidence. (AO2) • Applies knowledge and understanding of geographical information/ideas to make supported judgements about the significance of factors throughout the response, leading to a balanced and coherent argument. (AO2)

Question number	Answer	Mark
3(a)(i)	<p style="text-align: center;">AO1 (2 marks)/AO2 (1 mark)</p> <p>Award 1 mark for analysing the resource to identify the pattern of vacant land and a further 2 marks for expansion up to a maximum of 3 marks. For example:</p> <p style="padding-left: 40px;">The pattern is that the amount of vacant land decreases from the CBD outwards (1) which probably reflects the previous distribution of industry and industrial jobs with more of these jobs in the inner city area (1) with deindustrialisation leading to the loss of those jobs, loss of employment, outmigration and so vacant lots appearing (1)</p> <p>Accept any other appropriate response.</p>	(3)

Question number	Answer
3(a)(ii)	<p style="text-align: center;">AO1 (3 marks)/AO2 (3 marks)</p> <p>Marking instructions</p> <p>Markers must apply the descriptors in line with the general marking guidance and the qualities outlined in the levels-based mark scheme below.</p> <p>Indicative content guidance</p> <p>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:</p> <p>AO1</p> <ul style="list-style-type: none"> • industry is likely to be located close to CBD and/or along river where it originally grew • traditional 'industrial' cities had industrial working class living close to those industries • middle-class suburbs are usually further out from the industrial centre but within commuting range of CBD for car owning <p>AO2</p> <ul style="list-style-type: none"> • pattern is well defined in Detroit with higher proportion of vacant lots closer to the CBD and along the river, suggesting outmigration and abandonment of houses as industries closed • less abandonment in middle-class outer suburbs because fewer jobs are directly dependent on the (auto) industry • not a perfect relationship. Some variation could be explained by pockets of industry in outer suburbs and pockets of urban regeneration.

Level	Mark	Descriptor
	0	No rewardable material.
Level 1	1–2	<ul style="list-style-type: none"> • 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)
Level 2	3–4	<ul style="list-style-type: none"> • 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)
Level 3	5–6	<ul style="list-style-type: none"> • 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)

Question number	Answer
3(b)	<p style="text-align: center;">AO1 (6 marks)</p> <p>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.</p> <p>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:</p> <ul style="list-style-type: none"> • different groups will have different needs depending on their social and economic characteristics • different groups of residents will have varying levels of political engagement and access to power, which will affect both their influence and their views • regeneration projects vary in scale but are generally top-down and thus controlled and dominated by local and national government who will have a strategy • strategies vary but may involve leisure, retail, commercial and residential schemes on public/private partnerships with the development industry • regeneration projects will sometimes involve high levels of public consultation but not all local groups are likely to feel engaged in the process • there may be conflict between the needs of the most deprived and the planners especially in terms of housing provision • regeneration may lead to a rise in property values and thus the breaking up of communities that can no longer afford property.

Level	Mark	Descriptor
	0	No rewardable material.
Level 1	1–2	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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
3(c)	<p style="text-align: center;">AO1 (5 marks)/AO2 (15 marks)</p> <p>Marking instructions</p> <p>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:</p> <ul style="list-style-type: none"> • 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. <p>Indicative content guidance</p> <p>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:</p> <p>AO1</p> <ul style="list-style-type: none"> • most rural regeneration is built around diversification of rural employment whilst protecting sensitive areas of the rural environment and is successful when it improves the living environment • there is a range of ways in measuring the success of regeneration, including economic and social measures and different groups use different criteria based on their lived experience of the place • rebranding aims to make an area more attractive to inward investors, especially in the post-production countryside, and create some economic regeneration • much rural rebranding is also aimed at potential visitors to increase both numbers and spending • different groups use different criteria based on their lived experience of the place • most rural regeneration is built around diversification of rural employment whilst protecting sensitive areas of the rural environment <p>AO2</p> <ul style="list-style-type: none"> • rebranding alone is unlikely to lead to significant change – attracting more visitors without the regeneration necessary to cater for those visitors is liable to create as many problems as it solves, e.g. traffic problems, saturation at ‘honeypot’ sites • rebranding may stress an area’s rurality, its tranquility and remoteness, which might deter some types of potential inward investment, particularly secondary and quaternary industry • planning restrictions allied to rebranding (National Parks) that emphasise rural heritage and landscape will restrict the growth of industrial employment and therefore, limit the range of regeneration opportunities • if rebranding leads to greater visitor volume, retired local residents may see this in strongly negative terms – they have no potential for economic benefit but considerable risk for social losses – loss of lifestyle • younger local residents and the unemployed will welcome rebranding if it leads to real diversification, with both a greater number of jobs and

Question number	Answer
	<p>more variation in employment opportunities</p> <ul style="list-style-type: none"> • if rebranding makes any area more attractive for second-home owners and inward migration then it may have negative impacts on the availability of housing for local residents • local farmers and landowners may be able to diversify if rebranding attracts more visitors but will need access to investment funds and help with the local infrastructure to achieve it • along the rural-urban continuum the most economically successful rural areas are generally geographically close to urban areas and economically tied to them – these areas rarely resort to rebranding strategies suggesting rebranding is not an essential • however, remote rural regions may well be in competition with each other and require some rebranding to generate increased demand but this is unlikely to lead to successful regeneration without substantial aid from the state. <p>Accept rebranding as a sub-set of regeneration. Depends on chosen example(s) but likely to use their own local urban place and material from their urban area.</p>

Level	Mark	Descriptor
	0	No rewardable material.
Level 1	1–5	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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	Mark	Descriptor
Level 4	16–20	<ul style="list-style-type: none"> • 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	Answer	Mark
4(a)(i)	<p style="text-align: center;">A01 (2 marks)/A02 (1 mark)</p> <p>Award 1 mark for analysing the resource to identify a feature of the area indicated and a further 2 marks expansion up to a maximum 3 marks. For example:</p> <ul style="list-style-type: none"> New migrants will be attracted to places that already have significant numbers of the same ethnic group (1) because there will be shared characteristics, e.g. language, belief systems (1), and existing family members may already be there with offers of housing and economic opportunities (1). <p>Accept any other appropriate response.</p>	(3)

Question number	Answer
4(a)(ii)	<p style="text-align: center;">A01 (3 marks)/A02 (3 marks)</p> <p>Marking instructions</p> <p>Markers must apply the descriptors in line with the general marking guidance and the qualities outlined in the levels-based mark scheme below.</p> <p>Indicative content guidance</p> <p>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:</p> <p>A01</p> <ul style="list-style-type: none"> property prices will vary across the city and operate as a filter for (poorer) ethnic groups areas close to entry points (e.g. airports and dock areas) are likely to be more mixed there may be recruitment of migrants by specific industries, leading to concentrations in the areas where these are located <p>A02</p> <ul style="list-style-type: none"> more diversity on the lake, perhaps because of port arrivals and/or airports and closer to CBD to both the north and south perhaps because of mixed housing large African-American community immediately to west of CBD, with perhaps older and smaller properties of industrial working class white suburbs on outskirts or city, probably in more attractive areas with higher-cost commuter housing.

Level	Mark	Descriptor
	0	No rewardable material.
Level 1	1–2	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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
4(b)	<p style="text-align: center;">AO1 (6 marks)</p> <p>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.</p> <p>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:</p> <ul style="list-style-type: none"> • perceptions will vary according to both the objective reality of living spaces and the cultural and social lens through which they are seen • perceptions will change over time as areas change in terms of the economic opportunities on offer • variations in the environmental quality of an area will provoke variations in perception (industrialisation/deindustrialisation) • long-term residents may have different views from outsiders with reference to the reputation of an area • different age groups may be seeking different services and environments, e.g. leisure activities • ethnic and cultural factors will determine the attractiveness of some areas to particular groups – attractive to some but unattractive to others • inner-city suburbs are often dynamic with variations in land use and housing type which are also close(r) to employment/places of education that will make them attractive to some groups, e.g. students • outer-suburban areas offer less variety of land use and generally more dependence on private transport and higher commuting costs, which may determine the attractiveness of an area.

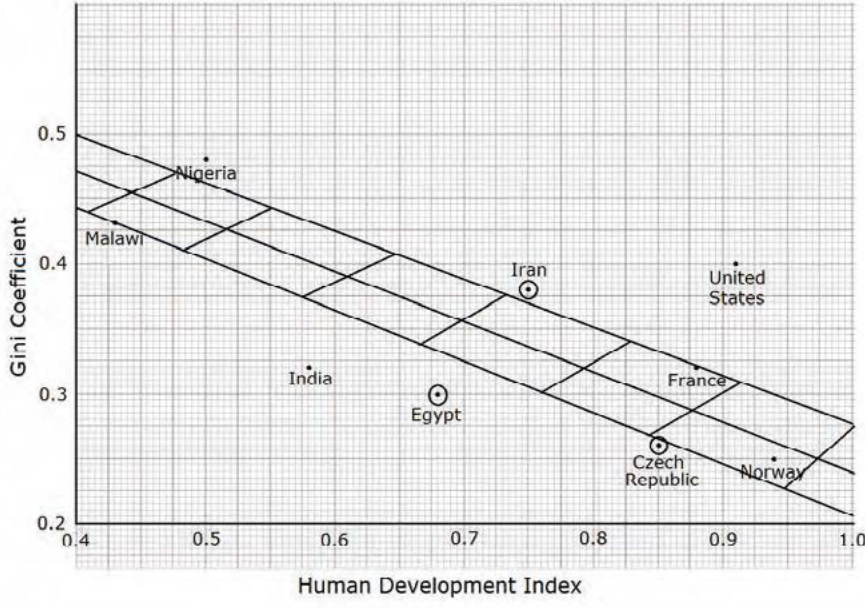
Level	Mark	Descriptor
	0	No rewardable material.
Level 1	1–2	<ul style="list-style-type: none"> • Demonstrates isolated elements of geographical knowledge and understanding, some of which may be inaccurate or irrelevant. (AO1) • Understanding addresses a narrow range of geographical ideas, which lack detail. (AO1)
Level 2	3–4	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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)

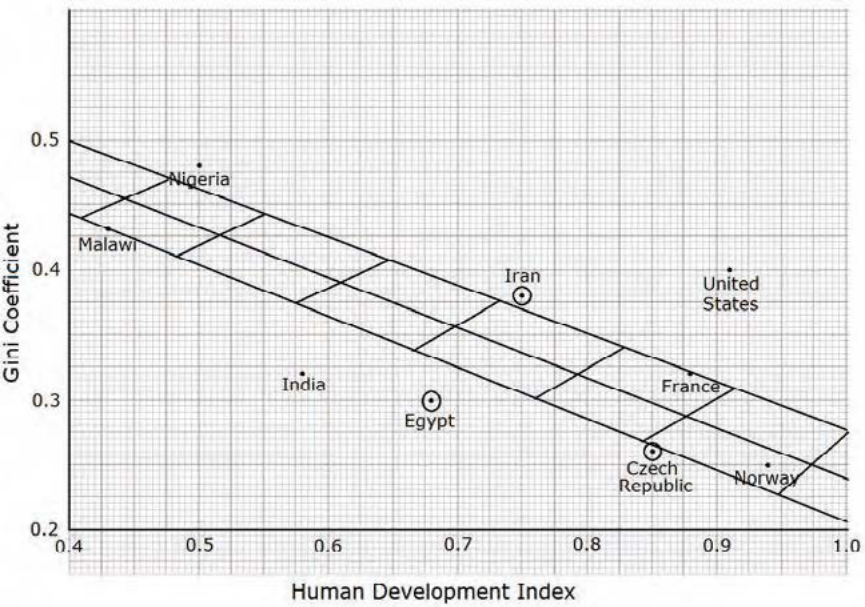
Question number	Answer
4(c)	<p style="text-align: center;">AO1 (5 marks)/AO2 (15 marks)</p> <p>Marking instructions Markers must apply the descriptors in line with the general marking guidance and the qualities outlined in the levels-based mark scheme below. Responses that demonstrate only AO1 without any AO2 should be awarded marks as follows:</p> <ul style="list-style-type: none"> • 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. <p>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:</p> <p>AO1</p> <ul style="list-style-type: none"> • successful management can be assessed using a range of measures, both economic and social • different stakeholders will use different criteria to assess success as measures such as rates of infant mortality and/or life expectancy will give an indication of social progress whilst the assimilation of ethnic communities might be measured by using measures of voter turnout and the development of local community groups • reductions in inequalities will also reduce measures of deprivation • judgements will depend on the meaning of places and the impact of urban management on these places <p>AO2</p> <ul style="list-style-type: none"> • management will involve local planning decisions with respect to urban land use, which inevitably changes those environments, some will involve the displacement of people • management strategies may not be coherent with contradictions, e.g. attempts to assimilate new migrants while also supporting diversity • local communities are likely to have different perceptions of the value of places and conflicting goals over change, especially in areas of cultural diversity • for some stakeholders, a reduction in deprivation levels will be counted as a success but this will impact on poorer communities who may well not be able to afford to stay if gentrification takes place • the management of an urban area may very well involve changes in services, which will also have a variable impact on communities, e.g. more or fewer retail outlets • management may increase the rate of in-migration into an area which will change the community in ways that will affect some positively but others negatively • increasing political engagement will change the political complexion of an area, which will in turn be counted as a 'success' by those who gain from it but not by others, e.g. changing political complexion of

Question number	Answer
	inner-city constituencies <ul style="list-style-type: none">• areas might 'improve' economically but only by displacing people to other areas, which may be resisted by those groups

Level	Mark	Descriptor
	0	No rewardable material.
Level 1	1–5	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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

Level	Mark	Descriptor
		<p>interpretation that is supported by evidence. (AO2)</p> <ul style="list-style-type: none"> • 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	Answer	Mark
5(a)(i)	<p style="text-align: center;">A03 (3 marks)</p> <p>Award 1 mark for each correctly plotted point for Egypt, Iran and the Czech Republic, up to maximum of 3 marks.</p> 	(3)

Question number	Answer	Mark
5(a)(ii)	<p style="text-align: center;">A03 (1 mark)</p> <p>Award 1 mark for a line of best fit that falls within the acceptable range shown below.</p> 	(1)

Question number	Answer
5(b)	<p style="text-align: center;">AO1 (3 marks)/AO2 (3 marks)</p> <p>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.</p> <p>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:</p> <p>AO1</p> <ul style="list-style-type: none"> • the Human Development Index (HDI) includes a measurement of levels of education which generally decreases levels of inequality • more developed societies may have a greater regard for the disadvantaged so have fiscal policies to reduce the gap between rich and poor hence lower Gini scores • countries with low HDI scores are often dominated by primary sector employment (e.g. agriculture) associated with high levels of poverty but also wealthy urban elites hence they have high Gini scores <p>AO2</p> <ul style="list-style-type: none"> • the relationship is based on limited data, which has a relatively weak negative correlation, suggesting that there is not a clear relationship between HDI and the Gini Coefficient scores • it is also possible that causation is confused – as some have argued perhaps lower Gini coefficients cause higher HDI so becoming the independent variable • by no means all high HDI countries have low Gini Coefficients (see USA) reflecting changes in tax policy and welfare payments • inequalities have risen in recent years in many countries, including the USA and the UK, suggesting that higher human development does not lead to a reduction in the Gini coefficient given that HDI scores have risen in both countries

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Level 1	1–2	<ul style="list-style-type: none"> • 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)
Level 2	3–4	<ul style="list-style-type: none"> • 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)
Level 3	5–6	<ul style="list-style-type: none"> • 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)

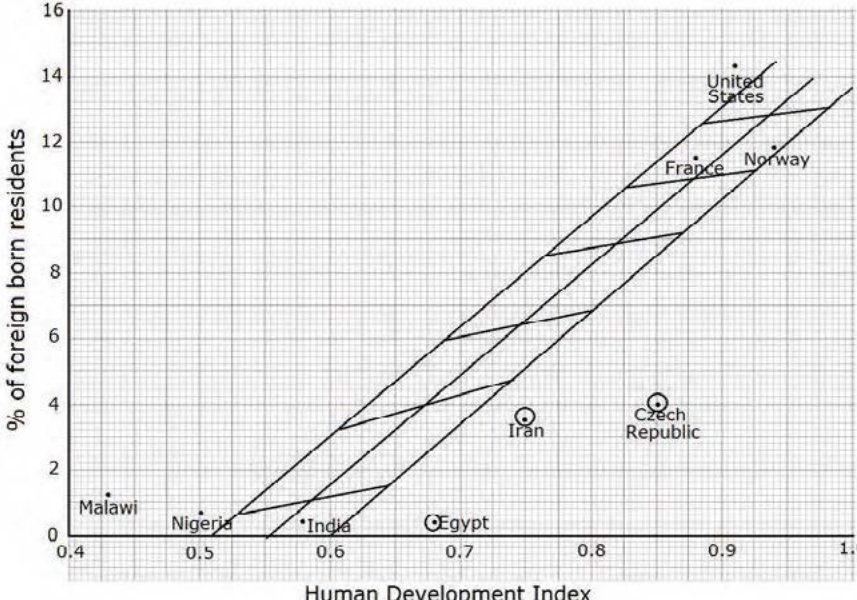
Question number	Answer
5(c)	<p style="text-align: center;">AO1 (8 marks)</p> <p>Marking instructions Markers must apply the descriptors in line with the general marking guidance and the qualities outlined in the levels-based mark scheme below.</p> <p>Indicative content guidance The indicative content 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:</p> <ul style="list-style-type: none"> • there is a strong relationship between life expectancy and GDP per capita both between and within countries • there are, however, significant exceptions at both national and international level, reflecting significant variations in the provision of basic services and diet • life expectancy is largely driven by infant mortality rates in the developing world • infant mortality rates tend to be high in remote(r) rural areas in the developing world where maternal health care is underfunded and clean water unavailable • there are significant urban/rural contrasts in the developed world but particular 'black spots' tend to be deindustrialised cities (e.g. Glasgow, Detroit) • there are significant ethnic variations that are driven by poverty (African-American mortality rates) • health care and insurance levels are highly developed in most states with high life expectancies • lifestyle issues are significant in driving down life expectancies in some places (Russia, southern United States) • war, civil unrest and the breakdown of basic services impacts negatively on life expectancies in some global regions, e.g. the Middle East.

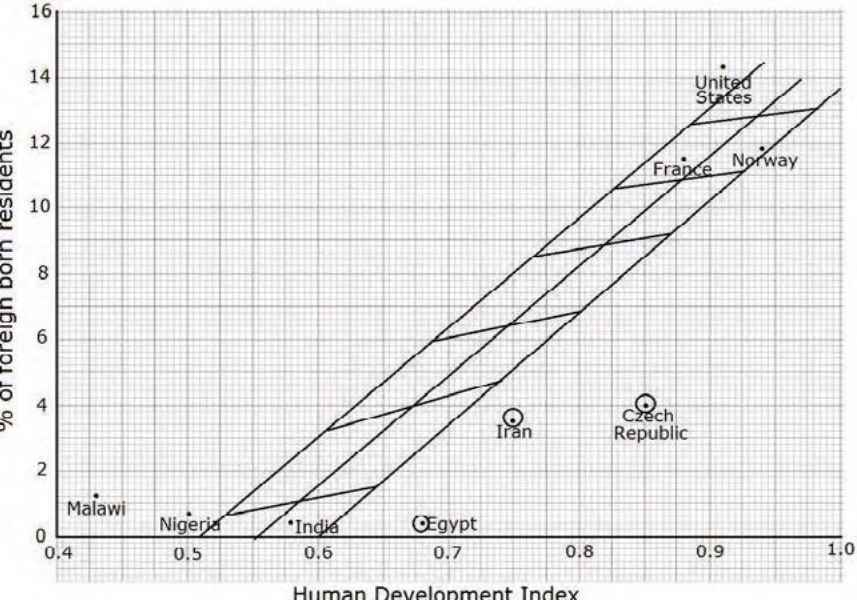
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Level 1	1–2	<ul style="list-style-type: none"> • Demonstrates isolated elements of geographical knowledge and understanding, some of which may be inaccurate or irrelevant. (AO1) • Understanding addresses a narrow range of geographical ideas, which lack detail. (AO1)
Level 2	3–5	<ul style="list-style-type: none"> • 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	6–8	<ul style="list-style-type: none"> • 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
5(d)	<p style="text-align: center;">AO1 (5 marks)/AO2 (15 marks)</p> <p>Marking instructions</p> <p>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:</p> <ul style="list-style-type: none"> • 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. <p>Indicative content guidance</p> <p>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:</p> <p>AO1</p> <ul style="list-style-type: none"> • there is a wide range of different types of geopolitical interventions from development aid to military intervention with human rights often invoked as a reason resulting in differing levels of success • human rights changes can be measured in terms of health, life expectancy, and educational levels, as well as political freedoms • there is a patchy history of development aid in terms of economic inequalities, which in turn will impact on human rights • there are differences in success between military and non-military interventions <p>AO2</p> <ul style="list-style-type: none"> • the impact of interventions is likely to be uneven geographically within a country so there is likely to be change in different directions for different regions • the impact of interventions is likely to be uneven socially/ethnically within a country so there is likely to be change in different directions for different groups of people • some interventions take place with the full co-operation of local elites who can clearly be seen to benefit economically from it and thus probably in terms of their wider health and welfare • there are sometimes tensions between different aspects of the same intervention which can both improve human rights for some while actively reducing them for others • interventions may have contrasting short-term and long-term consequences (military interventions in Iraq, Libya) • the evaluation of what constitutes a reduction/improvement in human rights will vary across different groups (for some the increase in gender equality is not seen as an improvement) • human rights as a justification for military intervention is not necessarily the only or even dominant reason but might nonetheless lead to positive changes

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Level 2	6–10	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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	Mark	Descriptor
Level 4	16–20	<ul style="list-style-type: none"> • 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	Answer	Mark
6(a)(i)	<p style="text-align: center;">A03 (3 marks)</p> <p>Award 1 mark for each correctly plotted point for Egypt, Iran and the Czech Republic, up to maximum of 3 marks.</p> 	(3)

Question number	Answer	Mark
6(a)(ii)	<p style="text-align: center;">A03 (1 mark)</p> <p>Award 1 mark for a line of best fit that falls within the acceptable range shown below.</p> 	(1)

Question number	Answer
6(b)	<p style="text-align: center;">AO1 (3 marks)/AO2 (3 marks)</p> <p>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.</p> <p>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:</p> <p>AO1</p> <ul style="list-style-type: none"> • the Human Development Index (HDI) includes GDP per capita and richer economies will be more attractive to migrants • more developed societies are likely to have higher demand for labour so have more immigrants seeking work • countries with low HDI scores may have autocratic governments or suffer from internal divisions and conflict, which will make them unattractive and also accelerate out-migration <p>AO2</p> <ul style="list-style-type: none"> • the relationship, even with limited data availability, is not clear with a clear relationship shown between the two groups but not within the groups • it is also possible that causation is confused – as some have argued perhaps lower levels of foreign migrants cause lower HDI so becoming the independent variable • size of country is likely to a significant factor – small countries frequently have high numbers of foreign born residents • countries that belong to regional trading blocs (EU) may be obliged to take high levels of migrants (e.g. France) through agreements (Scengen) • other countries may have historic resistance to foreign born residents (e.g. Japan) despite being high HDI states – data is selective

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Question number	Answer
6(c)	<p style="text-align: center;">AO1 (8 marks)</p> <p>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.</p> <p>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:</p> <ul style="list-style-type: none"> • the global institutions were established after the Second World War to bring stability to the world economy and to avoid a repetition of the Depression of the 30s • the IMF has operated as lender as a last resort when private banks have denied credit to sovereign governments • they have, since the 70s, lent with conditions attached in the form of structural adjustment programmes that have led to privatisation and deregulation, as well as devaluation • these policies have promoted globalisation and the neo-liberal model of western capitalism • the World Bank has promoted development strategies that concentrated historically on large, top-down, projects, often with lending from the IMF and other agencies • the WTO (which grew out of GATT and the ITO) promotes free trade in an attempt to increase global output • the rules of the WTO bind countries to agreements to reduce tariff quotas and other internal obstacles to 'free trade' • all three major institutions are dominated by the developed world and especially the US • the current (Doha) round of negotiations has stalled, with objection from the developing world and emerging countries to the dominance of the developed world in the decision-making process • for many critics the developed world acts in its own interests in the management of the global economy – for others the policies are a logical application of economic theory.

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Level 1	1–2	<ul style="list-style-type: none"> • 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)
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Level 3	6–8	<ul style="list-style-type: none"> • 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
6(d)	<p style="text-align: center;">AO1 (5 marks)/AO2 (15 marks)</p> <p>Marking instructions</p> <p>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:</p> <ul style="list-style-type: none"> • 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. <p>Indicative content guidance</p> <p>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:</p> <p>AO1</p> <ul style="list-style-type: none"> • globalisation reduces the decision-making power of national governments, especially in terms of their economic policies as nation states are bound by international agreements over trade, capital flows and in the case of the EU labour movements • as globalisation has developed so too has the number of nation states as there has been a significant growth of tax-haven states as a direct result of globalisation • there has been overt resistance to globalisation from some governments <p>AO2</p> <ul style="list-style-type: none"> • sovereignty involves the power to make decisions within a given area and there can be significant reductions in sovereignty whilst retaining the integrity of national borders • historically, regions and local areas have lost sovereignty to central governments and that is partially replicated globally but language and cultural differences impedes the complete integration of states • the ‘importance’ of sovereignty is open to several different interpretations – importance for who and for what? • given that globalisation is a contested term with distinctive and controversial processes attached to it, e.g. privatisation and free trade, it provokes a varied response within nation states • from the point of view of TNCs, national sovereignty is certainly less important – in fact something of an obstacle when national governments intrude on their operations • national sovereignty has also been a reaction to globalisation as well as a consequence in states that have wanted to develop a new global model • migration is seen by some as a consequence of globalisation which stimulates an active and contentious debate over national sovereignty and the role of borders • reactions to globalisation also involve attempts to create states within super-states to preserve cultural and ethnic distinctiveness • the growth of tax haven ‘mini-states’ is a direct consequence of

Question number	Answer
	globalisation and an example of the increasing importance of 'sovereignty' with secrecy over their banking and focal arrangements.

Level	Mark	Descriptor
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Level 1	1–5	<ul style="list-style-type: none"> • 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)
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Level 3	11–15	<ul style="list-style-type: none"> • 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)
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Write your name here

Surname

Other names

Pearson Edexcel
Level 3 GCE

Centre Number

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Candidate Number

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Geography

Advanced
Paper 3

Sample assessment material for first teaching
September 2016

Time: 2 hours 15 minutes

Paper Reference

9GE0/03

You must have:

a ruler, the Resource Booklet provided, calculator

Total Marks

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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.
- Answer the questions in the spaces provided – *there may be more space than you need.*
- Calculators may be used.
- Any **calculations** must show all stages of **working out** and a **clear answer**.

Information

- The total mark for this paper is 70.
- 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.
- You are **advised** to spend the first **15 minutes** reading the Resource Booklet.
- Check your answers if you have time at the end.
- Try to answer every question.

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Answer ALL questions.

Write your answers in the spaces provided.

You must use the Resource Booklet provided and your own knowledge and understanding from across your course of study to answer the questions in this paper.

- 1** Explain why tropical rainforests are a globally important physical system.

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(Total for Question 1 = 4 marks)

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- 2 (a) The table below shows data on income per capita and tropical rainforest forest cover loss for 10 countries.

The formula for Spearman's rank correlation coefficient value R is given below.

$$R = 1 - \frac{6\sum d^2}{n^3 - n}$$

Complete the table below and calculate the value of R for the data given.

Show your working.

(4)

Country	Income per capita (2014 US\$)	Rank	% forest cover loss 1990–2005	Rank	d	d ²
Brunei	36,600	1	11.2	7		
Costa Rica	10,000	4	29.4	3	1	1
Indonesia	3,500	6	30.8	2		
Kenya	1,400	8	5.1	9	1	1
Madagascar	450	10	1.5	10		
Mexico	10,700	3	15.3	5	2	4
Panama	11,100	2	18.0	4	2	4
Papua New Guinea	2,100	7	13.7	6	1	1
Senegal	1,000	9	9.2	8	1	1
Sri Lanka	3,600	5	35.0	1		
					Σ	

R =

(b) Explain why the value for R you have calculated, for the relationship between income per capita and forest cover loss, may be unreliable.

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(Total for Question 2 = 8 marks)

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- 3 Study Figure 3 in Section B of the Resource Booklet, which shows data for three countries.
Analyse the differences in level of development for the three countries shown.

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(Total for Question 3 = 8 marks)

4 Study Figure 9 in Section C of the Resource Booklet, which shows data on natural resources exports versus income per person.

Analyse the relationship between income per capita and natural resource exports.

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5 Study the resources in Section C of the Resource Booklet.

Evaluate the economic strengths and weaknesses of Angola, Congo and DRC.

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You are advised to read Section D of the Resource Booklet before attempting this question.

6 Evaluate the view that the natural resources found in the three countries shown are more of a 'curse' than a 'blessing' for their people and environment.

(24)

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(Total for Question 6 = 24 marks)

TOTAL FOR PAPER = 70 MARKS

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Pearson Edexcel Level 3 GCE

Geography

Advanced

Paper 3

Sample assessment material for first teaching
September 2016
Resource Booklet

Paper Reference

9GE0/03

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Resource exploitation in the Congo Basin of west central Africa

Section A: The region and its forests

The **Republic of Congo** (referred to here as Congo), **Angola** and the **Democratic Republic of Congo** (referred to as the DRC) are three countries in Africa within the Congo Basin (Figure 1). All were colonies in the past.

- **Angola** gained independence from Portugal in 1975 after a long war of liberation; civil war plagued Angola until 2002.
- The **DRC** was a Belgian colony until gaining independence in 1960, and was called Zaire between 1971 and 1997.
- The **Congo** was a French colony until independence in 1960.

Congo and the **DRC** have capital cities (Brazzaville and Kinshasa respectively) on opposite banks of the Congo River.

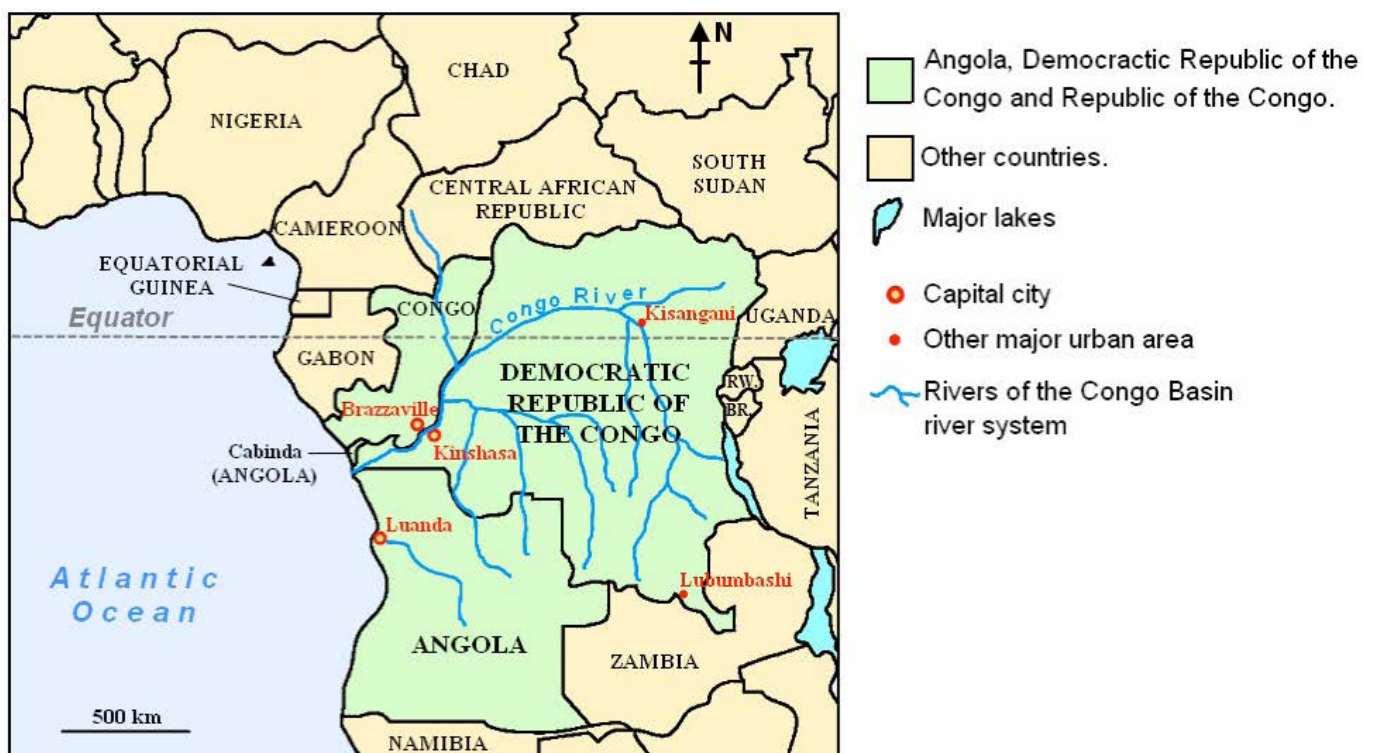
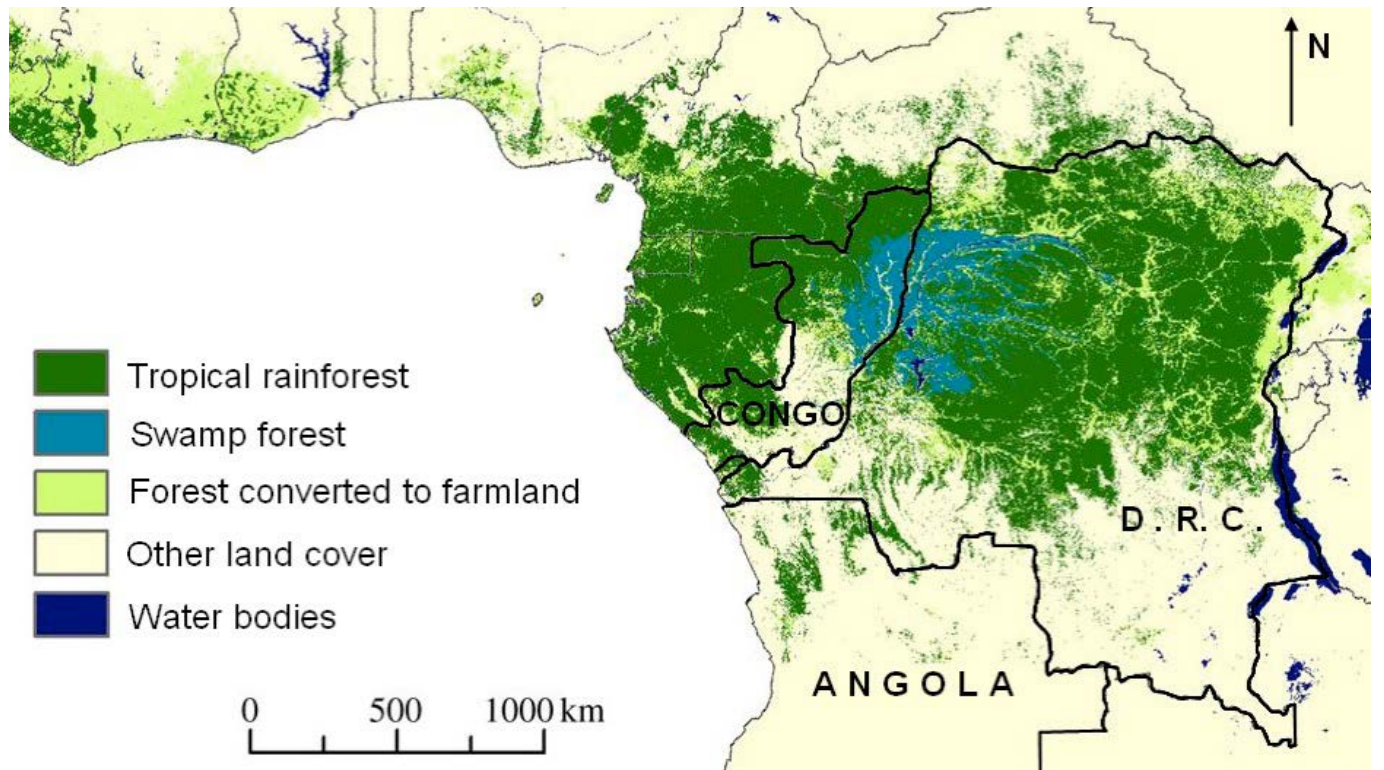


Figure 1: A map of the three countries and wider region

Africa's tropical rainforests are concentrated in the area of the Congo Basin (Figure 2). Rainforests cover only 13% of Africa, but store 90% of all carbon stored in terrestrial ecosystems in Africa.

- The Congo Basin rainforests are the second largest in the world after the Amazon rainforest.
- Africa's rainforests support 60 million people directly, in terms of food supply, fuel wood, timber for construction and other products, medicine and fibres.
- By global standards, deforestation rates in the Congo Basin are low, and falling.
- Access to forests is difficult, due to poor road networks, and mining is seen as more profitable than tropical timber.



(Source: State and evolution of the African rainforests between 1990 and 2010, Published 22 July 2013 from <http://rstb.royalsocietypublishing.org/content/368/1625/20120300.figures-only>)

Figure 2: A map of forest cover in central Africa

SECTION B

Development, economic and trade data

The DRC and Angola are classified as Least Developed Countries (LDCs) by the United Nations, and are two of 34 LDCs in Africa.

- 70%+ of people in the DRC live on less than US\$1.25 per day (40% in Angola and 30% in Congo).
- Only two countries in Africa (Botswana and Cape Verde) have managed to 'escape' the classification, since the LDC country classification was introduced in 1971.
- While these countries are poor by global standards, they are rich in terms of natural resources.
- The mineral resources of the DRC have been estimated to be worth US\$24 trillion and both Congo and Angola have \$ billions of crude oil still to exploit.

Country	Income per person (US\$)	Population aged 0-14 (%)	Population with electricity (%)	Infant mortality rate (per 1000 live births)	Life expectancy	Average annual GDP growth (%) 2003-2013	Gini co-efficient (income equality)
Angola	5170	48	35	102	52	10.3	58.6
Congo	2590	43	37	36	58	4.5	47.3
DRC	430	45	15	86	49.5	6.2	44.4

Figure 3: A table showing selected development indicators for the three countries, 2013-14

SECTION C

Economic and trade data

This region of Africa produces resources that are important globally.

- In 2014 Angola was the world's 16th largest producer of **crude oil** and Congo the 39th.
- The DRC is the world's largest producer of **cobalt ores**.
- The DRC is the world's 8th largest producer of **copper ore**.
- The mineral **coltan** (or columbite-tantalite) is produced in the DRC and nearby Rwanda; the DRC is the world's 3rd largest source of coltan.

These metals are found in a wide variety of consumers products (Figure 4).



(Source:Image 19049807 – Sergeii Kolesnyk/123RF \ Image 19671147 – bloomua/123RF \ Image 14270106 - martm/123RF)

Figure 4: Detail of three resources from Africa used in consumer electronics

The region is connected to the wider global economy by its rich natural resources, which are exported globally (Figure 5).

- Raw materials make up a significant percentage of total exports.
- The largest import and export partners for the three countries are shown in Figure 6 and their main imports are shown in Figure 7.
- The price of mineral exports from the region is determined by global markets, on the basis of supply and demand.

Like all commodities, mineral prices vary from day to day and year to year. Figure 8 shows changes in crude oil, cobalt and copper prices between 2003 and 2013.

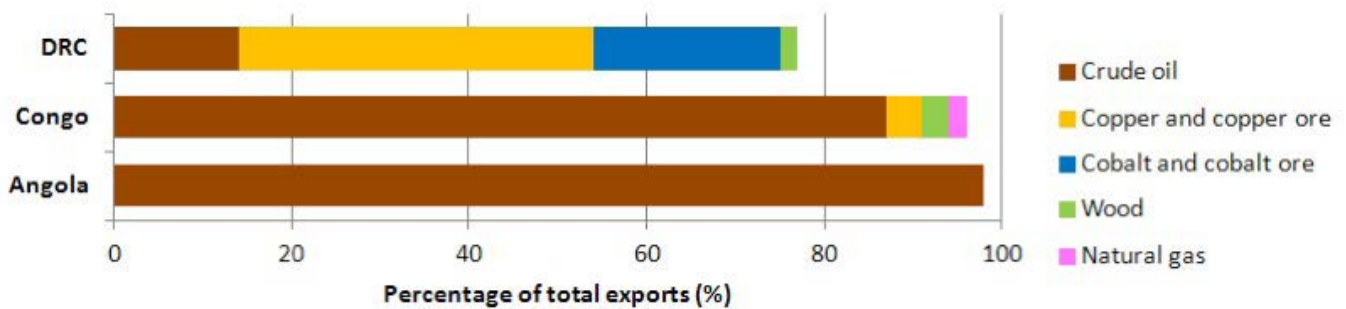


Figure 5: A graph showing major exports for the three countries in 2012 (for exports over 2% of total exports)



















Imports from: (US\$ billions)	Country	Exports to: (US\$ billions)
South Africa \$1.6  China \$ 0.8  Belgium \$ 0.4 	DRC	China \$ 3.3  South Korea \$0.2  Finland \$0.2 
France \$ 0.7  China \$ 0.5  Brazil \$ 0.3 	Congo	China \$ 3.9  France \$ 0.9  Australia \$ 0.7 
China \$3.9  Portugal \$ 3.8  South Africa \$ 1.6 	Angola	China \$ 28.7  India \$6.9  South Africa \$2.8 

Figure 6: A table showing the three largest import sources and export destinations for the three countries in 2012

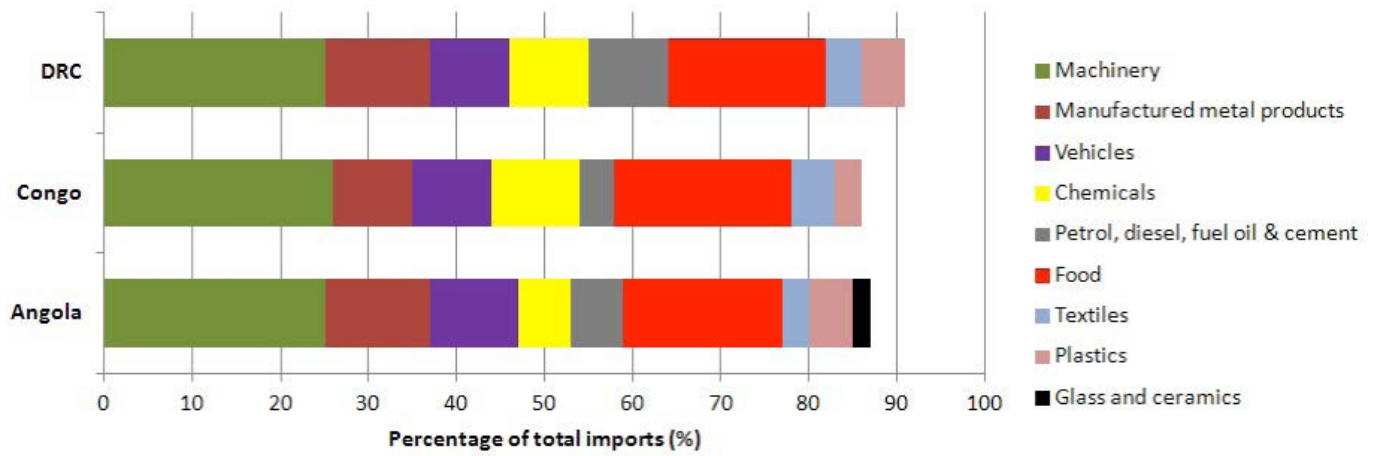


Figure 7: A graph showing major imports for the three countries in 2012 (for imports over 2% of total imports)

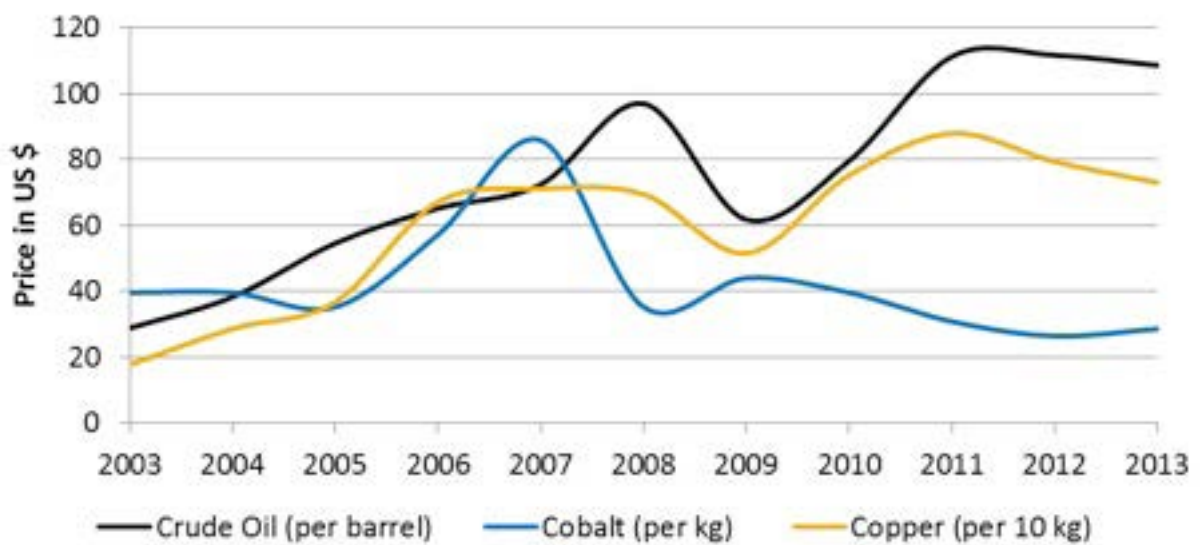


Figure 8: A graph showing crude oil, cobalt and copper prices 2003-2013

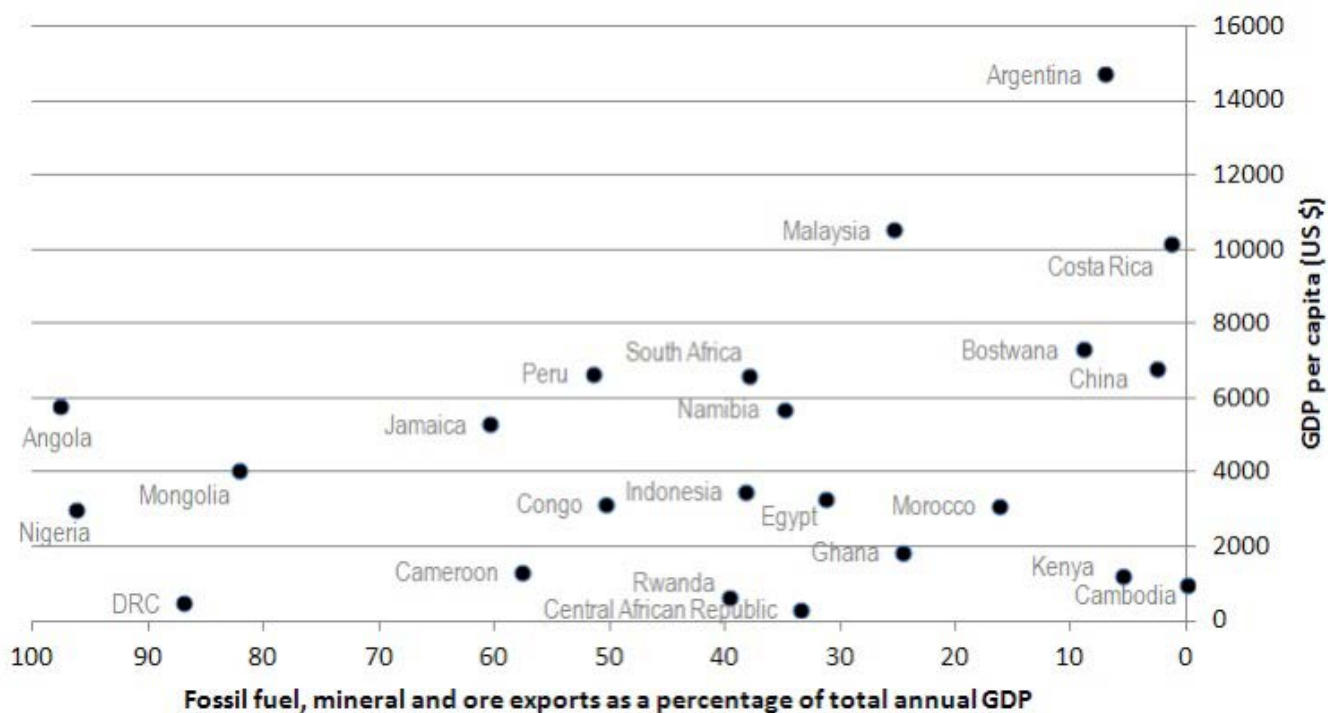


Figure 9: A scattergraph of natural resources exports versus income per person (2013)

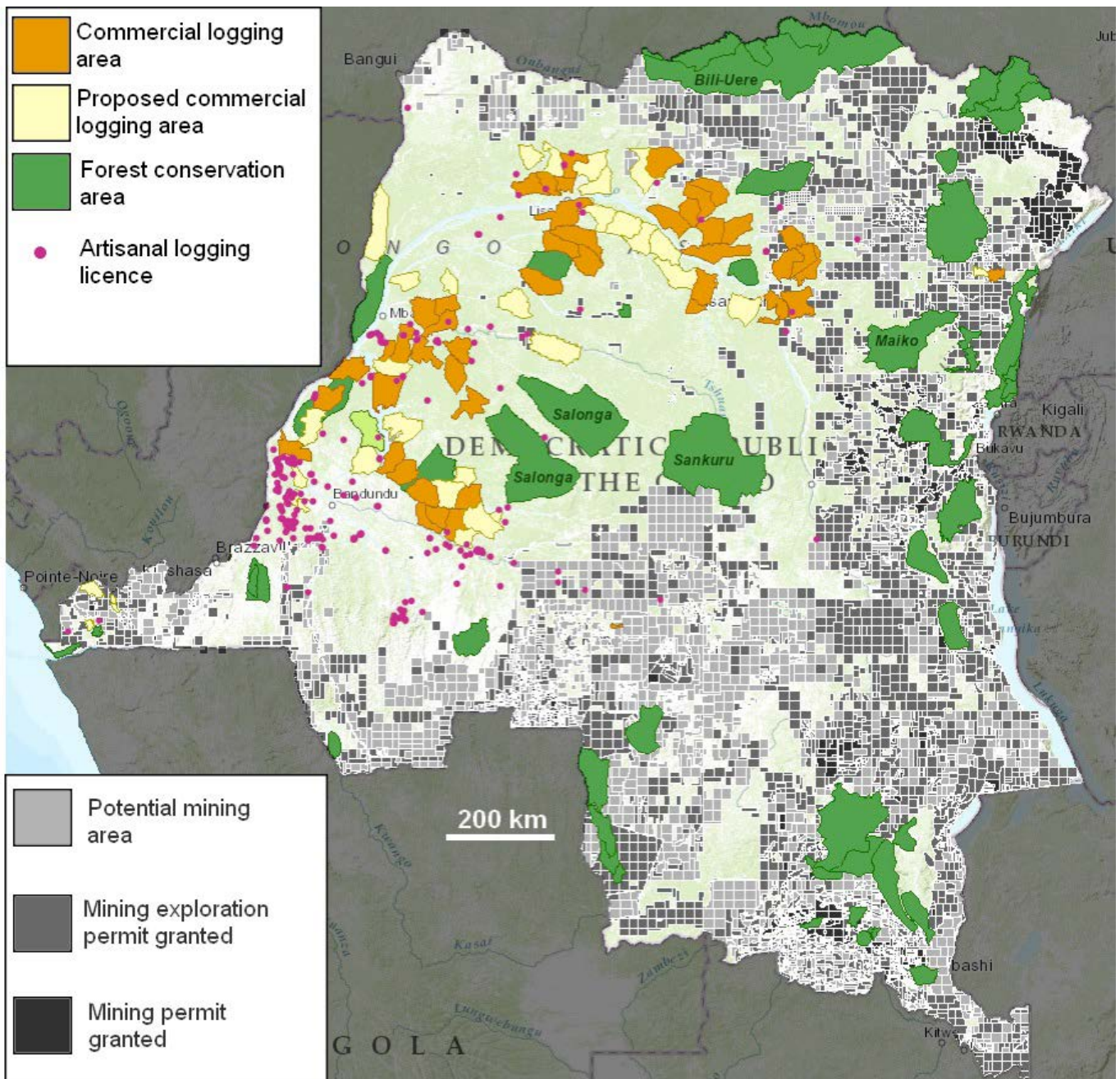
SECTION D

Although abundant natural resources might be considered a blessing for a country, the concept of the 'Resource Curse' is that abundant natural resources sometimes prevent economic development rather than promote it.

- Resource-rich countries may rely on exporting raw materials, often cheaply, preventing the development of manufacturing and service industries.
- Investment, whether local or foreign, may focus on exploiting resources rather than invested in other sectors such as manufacturing or services.

Some natural resources in the region are, or have been, examples of **conflict minerals**.

- Minerals extracted in a conflict/war zone with the profits used to fund the conflict.
- Control of mines and mining areas is a key goal within the conflict.
- Even today, many mining areas are controlled by military groups in eastern DRC as part of the ongoing Kivu Conflict between the government of the DRC and rebel Rwandan Hutu forces.
- In Angola both oil and diamonds played a key part in funding the civil war between 1975 and 2002.



(Source: Taken from: <http://www.wri.org/applications/maps/forestatlas/cod/index.htm#v=atlas&l=fr>)

Figure 10: A map showing logging, mining and forest conservation areas in the DRC



Artisanal mining	TNC mining and oil drilling
<ul style="list-style-type: none"> • Up to 12 million independent miners work in the DRC, 20–30% of whom may be children. • Coltan and cobalt are mined on a small scale with basic hand tools in open pits. • Successful miners can earn US\$50 per week, more than can be earned from either farming or timber cutting. • A complex chain of trade moves ores to warehouses many of which are Chinese owned. • The minerals are used by global electronics TNCs. 	<ul style="list-style-type: none"> • French and Italian TNCs Total and Eni extract 70% of oil production in Congo. • In Angola the government oil and gas company Sonangol has joint-venture operations with TNCs Total, Chevron, ExxonMobil, BP, Statoil, and Eni. • Chinese companies Sinopec and the China National Offshore Oil Corporation are increasingly active. • In the DRC mining companies from Australia, the UK, USA and Canada extract copper and other minerals.
 <p>(Source: http://www.fairphone.com/2014/10/02/research-trip-visiting-tin-tantalum-and-tungsten-mines/)</p> <p style="text-align: center;">Artisanal mining in the DRC</p>	 <p>(Source: © Christopher Poe)</p> <p style="text-align: center;">Offshore oil rig, Angola</p>

Figure 11: Photos of Artisanal miners and TNCs

<p>View 1: Angolan oil</p> <p>Next to the sleek skyscrapers and luxury apartments (<i>in Luanda</i>), ramshackle shantytowns and crowded slums spread for miles in every direction, housing millions of people living on less than \$2 a day. In many cases, even basic necessities like water and electricity are lacking.</p> <p>(CNN report on Angola, 2012)</p>	<p>View 2: Coltan mining in the DRC</p> <p>Illegal mining exploits child labour as well as destroying the habitats of many species such as chimpanzees and gorillas that are already in grave danger due to poaching and deforestation.</p> <p>(The Jane Goodall Institute, 2014)</p>
<p>View 3: China in Africa</p> <p>It is rather difficult to answer whether Chinese-African relationship is a win-win or one-sided deal. There is no doubt that Chinese cooperation with Africa is a well-thought-out, wise and strategic decision of the Chinese government and Chinese market players. But what is in it for Africa in the long run?</p> <p>(Economics Student Society of Australia, 2013)</p>	<p>View 4: African economic growth</p> <p>Economic growth in Sub-Saharan Africa continues to rise from 4.7% in 2013 to a forecasted 5.2% in 2014. This performance is boosted by rising investment in natural resources and infrastructure, and strong household spending. Growth was notably buoyant in resource-rich countries.</p> <p>(World Bank, 2014)</p>

Figure 12: A table showing some views about resource exploitation in the region

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Paper 3 mark scheme

Question number	Indicative content	Mark
1	<p style="text-align: center;">AO1 (4 marks)</p> <p>Award 1 mark for identifying a reason why tropical rainforests are a globally important physical system, and a further 3 marks for expansion up to a maximum of 4 marks. For example:</p> <ul style="list-style-type: none"> • Key role in carbon sequestration (1) because, during photosynthesis, carbon from the atmosphere is converted into biomass (a carbon store) (1) which, in addition, means forests play a key role in climate regulation by balancing global CO₂ levels (1) and the 'lungs of the Earth' idea in terms of oxygen generation (1). • Key role in the water cycle (1), in terms of infiltration/interception and storing water rather than promoting surface runoff and flooding (1) copious evaporation/transpiration aids the production of clouds and maintains the equatorial climate (1) and the rainfall associated with the ITCZ climate belt (1). <p>Reject arguments based on mineral wealth/other resources that involve the destruction of the forest.</p> <p>Accept any other appropriate response.</p>	(4)

Question number	Indicative content	Mark								
2 (a)	<p style="text-align: center;">AO3 (4 marks)</p> <p>Award 1 mark for completion of empty d and d² rows:</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tbody> <tr> <td>6</td> <td>36</td> </tr> <tr> <td>4</td> <td>16</td> </tr> <tr> <td>0</td> <td>0</td> </tr> <tr> <td>4</td> <td>16</td> </tr> </tbody> </table> <p>Award 1 mark for the sum of d² column (Σ) = 80</p> <p>Award 1 mark for the correct working of equation:</p> $1 - \frac{6 \times 80}{10^3 - 10} \text{ or } 1 - \frac{480}{990} = R$ <p>Award 1 mark for answers that round to R = 0.52 OR Award full marks for the correct value of R alone. Allow error carried forward from each step.</p>	6	36	4	16	0	0	4	16	(4)
6	36									
4	16									
0	0									
4	16									

Question number	Indicative content	Mark
2(b)	<p style="text-align: center;">AO3 (4 marks)</p> <p>For each reason, award 1 mark for identifying a reason why the value for R which has been calculated may be unreliable, and a further mark for an appropriate expansion. For example:</p> <ul style="list-style-type: none"> • The two sets of data are from different dates (1990–2005 versus 2014) (1), which means any relationship may be spurious/is questionable because the time periods do not correlate (1) because forest cover loss encompasses a 15-year period whereas income per capita is a snapshot of 2014 (1) and since 2004 rates of forests loss in some countries could have changed significantly either up or down (1). • The calculation is based on only 10 pairs of data (1) which is too small to be meaningful (1), especially as not all tropical forest countries are included (1) so the data is at best partial (1). • Forest loss data is likely to be a best guess in many cases (1), especially in LDCs with limited funds to monitor changes (1), and may be based on extrapolation from satellite data (1), which reduces its accuracy (1). <p>Do not credit statements such as 'I may have incorrectly calculated the equation' or similar.</p> <p>Accept any other appropriate response.</p>	(4)

Question number	Indicative content
3	<p style="text-align: center;">AO1 (4 marks)/AO3 (4 marks)</p> <p>Marking instructions</p> <p>Markers must apply the descriptors in line with the general marking guidance and the qualities outlined in the levels-based mark scheme below.</p> <p>Indicative content guidance</p> <p>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:</p> <p>AO1</p> <ul style="list-style-type: none"> • development can be assessed using a range of measures, both human and economic but there can be issues of reliability with both single measures and indices to measure development • indices such as Gini Coefficient which is the most commonly used measure of a nations inequality may be used as they show more detail than single measures • economic development such as a higher income per person, can lead to further developments such as access to electricity • youthful populations are likely to have high birth rates and low economic development <p>AO3</p> <ul style="list-style-type: none"> • Angola’s economy is growing much faster than the DRC/Congo; answers might argue this does not indicate level of development, only progress from a human development perspective, Angola looks weaker than Congo; it has a very high infant mortality rate (suggesting poor healthcare/access) and a low life expectancy – Congo is a full six years’ more • credit the idea that, from Figure 5, Angola is almost wholly reliant on oil exports, which might suggest a very ‘simple’ economy • answers might refer to the Gini Co-efficient, which is very high for Angola, suggesting a very unequal society – perhaps meaning the per capita income data is of little value • a case can be made for Congo being the most developed; its per capita income is in the middle and the % living on less than \$1.25 per day is the lowest of the three countries; income distribution is better than Angola and life expectancy, access to electricity and infant mortality are the best; its 43% population 0–14 might suggest it is transitioning towards a higher development level <p>Accept any other appropriate response.</p>

Level	Mark	Descriptor
	0	No rewardable material.
Level 1	1–3	<ul style="list-style-type: none"> • Demonstrates isolated elements of geographical knowledge and understanding, some of which may be inaccurate or irrelevant. (AO1) • Investigates the question/issue to produce a limited analysis of data/evidence, making few connections to geographical ideas. (AO3)
Level 2	4–6	<ul style="list-style-type: none"> • Demonstrates geographical knowledge and understanding, which is mostly relevant but may include some inaccuracies. (AO1) • Critically investigates the question/issue to produce an analysis of data/evidence, making some logical connections to geographical ideas, which are mostly relevant. (AO3)
Level 3	7–8	<ul style="list-style-type: none"> • Demonstrates accurate and relevant geographical knowledge and understanding throughout. (AO1) • Critically investigates the question/issue to produce a coherent analysis of data/evidence, making logical connections to relevant geographical ideas. (AO3)

Question number	Indicative content
4	<p style="text-align: center;">AO1 (4 marks) AO3 (4 marks)</p> <p>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.</p> <p>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:</p> <p>AO1</p> <ul style="list-style-type: none"> • as countries develop and industrialise into the secondary and tertiary sectors their reliance on natural resources drops; China, Botswana, Malaysia might be seen as evidence for this • there are exceptions where countries income per capita is high due to the relative value of the natural resources exported • some countries can be trapped in poverty regardless of what they export, because low-income countries cover a spread from 5% to almost 100% of GDP from the export of natural resources • some countries may have none, or very few, natural resources yet have a high income per capita and such as Argentina, Singapore or Japan <p>AO3</p> <ul style="list-style-type: none"> • overall, it is possible to see a weak negative, i.e. as fuel, mineral and ore exports drop, wealth per capita rises correlation, as there is a trend but the spread is wide and there are anomalies • there are a number of countries with income p.c. under \$4000 and high exports (DRC, Nigeria, Mongolia, Cameroon) – however there are very low-income countries right down to 0% • Angola might be seen as anomalous as its % is almost 100% but its income p.c. is close to \$6000 • all the countries with a p.c. GDP over \$6000 have less than 50% mineral, ore and fuel exports and over \$10000 the % is always below 30% • credit the idea that the data does not include food/crop exports, e.g. Costa Rican and Kenya coffee; it also shows only selected countries so is not a full picture. <p>Accept any other appropriate response.</p>

Level	Mark	Descriptor
	0	No rewardable material.
Level 1	1–3	<ul style="list-style-type: none"> • Demonstrates isolated elements of geographical knowledge and understanding, some of which may be inaccurate or irrelevant. (AO1) • Investigates the question/issue to produce a limited analysis of data/evidence, making few connections to geographical ideas. (AO3)
Level 2	4–6	<ul style="list-style-type: none"> • Demonstrates geographical knowledge and understanding, which is mostly relevant but may include some inaccuracies. (AO1) • Critically investigates the question/issue to produce an analysis of data/evidence, making some logical connections to geographical ideas, which are mostly relevant. (AO3)
Level 3	7–8	<ul style="list-style-type: none"> • Demonstrates accurate and relevant geographical knowledge and understanding throughout. (AO1) • Critically investigates the question/issue to produce a coherent analysis of data/evidence, making logical connections to relevant geographical ideas. (AO3)

Question number	Indicative content
5	<p style="text-align: center;">AO1 (3 marks)/AO2 (9 marks)/AO3 (6 marks)</p> <p>Marking instructions</p> <p>Markers must apply the descriptors in line with the general marking guidance and the qualities outlined in the levels-based mark scheme below.</p> <p>Indicative content guidance</p> <p>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:</p> <p>AO1</p> <ul style="list-style-type: none"> • developing countries often rely on commodity exports, so their economies are not broad based and are likely to be vulnerable to price/trade volume changes • mineral resources have the potential to create wealth as they are in demand globally for energy and consumer electronics • developing countries have weak economies by global standards, lacking depth and breadth of connections (globalisation) which leads to weak consumer demand owing to low incomes <p>AO2</p> <ul style="list-style-type: none"> • a key advantage is that economic growth has been much higher than most countries and in the case of Angola similar to some of the BRIC such as China • another important economic advantage is that there are a variety of trading partners - both developed countries and emerging economies which reduces the risk of reliance on one trading partner • a trade surplus might also be implied further creating economic advantages • the DRC has some variety of exports which reduces the risk of commodity dependence • the Congo and Angola do not have such a variety of exports and so might have economic disadvantages due to possible boom/bust in terms of export values, or difficult to manage fluctuations in revenues. There might also be issues of changes in terms of trade which would also negatively impact on the economies of the Congo and Angola • another key economic disadvantage is that the imports are mainly manufactured goods which will be relatively expensive due to 'trade trap' issues • food is also imported, which could be seen as creating dependency/suggesting a lack of self-sufficiency • the low levels of development are also a key economic disadvantage as issues like poor healthcare and low levels of education/skills indicate a weak workforce which might deter FDI • conflict might be a significant hindrance to economic development

Question number	Indicative content
	<p>although some TNC have a record of investing in unstable regimes</p> <p>A03</p> <ul style="list-style-type: none"> • economic growth is strong with rates varying between 4.4% and 10.3% • Figure 6 suggests China is a major trading partner, perhaps suggesting dependency/over-reliance on one trading partner • neo-colonial relations could be seen in Figure 6 as imports tend to come from ex-colonial powers, indicating an overall weak economic position • figure 8 shows that there are exports with variable value, and dependency on a limited range of exports; import profiles suggesting limited domestic manufacturing capability and therefore poor terms of trade overall • there is evidence of economic dependency in a number of sources: Angola is wholly dependent on oil (price crash risk) and highly dependent on China for exports • Figure 9 can be used to argue that commodity dependency is associated with low income economies, but not in all cases • DRC does export a range of commodities but cobalt prices have fallen, so have earnings; DRC looks more 'informal' as TNCs are much less involved and vulnerable to internal unrest • Figure 2 and inference from other resources can be used to make evidenced judgements about individual countries and/or the region as a whole. <p>Accept any other appropriate response.</p>

Level	Mark	Descriptor
	0	No rewardable material.
Level 1	1–6	<ul style="list-style-type: none"> • 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. (AO2) • Applies knowledge and understanding of geographical information/ideas 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) • Makes superficial judgements about the value and reliability of quantitative and qualitative data/evidence. (AO3) • Investigates the question/issue to produce a limited interpretation of quantitative and qualitative data/evidence, but lacks meaningful connections to geographical ideas from across the course of study. (AO3)
Level 2	7–12	<ul style="list-style-type: none"> • Demonstrates geographical knowledge and understanding, which is mostly relevant but may include some inaccuracies. (AO1) • Applies knowledge and understanding of geographical information/ideas to find some logical connections/relationships. (AO2) • Applies knowledge and understanding of geographical information/ideas 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, partially supported by an argument that may be unbalanced or partially coherent. (AO2) • Makes some valid judgements about the value and reliability of quantitative and qualitative data/evidence. (AO3) • Investigates the question/issue to produce an interpretation of quantitative and qualitative data/evidence, making some meaningful connections to geographical ideas from across the course of study. (AO3)
Level 3	13–18	<ul style="list-style-type: none"> • 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)

Level	Mark	Descriptor
		<ul style="list-style-type: none"> • 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) • Makes valid judgements about the value and reliability of quantitative and qualitative data/evidence throughout. (AO3) • Critically investigates the question/issue to produce a coherent interpretation of quantitative and qualitative data/evidence, making meaningful connections to relevant geographical ideas from across the course of study throughout the response. (AO3)

Question number	Indicative content
6	<p style="text-align: center;">AO1 (4 marks)/AO2 (12 marks)/AO3 (8 marks)</p> <p>Marking instructions</p> <p>Markers must apply the descriptors in line with the general marking guidance and the qualities outlined in the levels-based mark scheme below.</p> <p>Indicative content guidance</p> <p>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:</p> <p>There is no 'correct' answer here, although answers that argue 'more curse than blessing' are likely to be the most common; answers should present both sides and use evidence from the Resource Booklet to support their assertions.</p> <p>AO1</p> <ul style="list-style-type: none"> • mining and other extraction industries support direct jobs as well as further employment opportunities through the multiplier effect and cumulative causation • jobs are low paid and exploitative, with poor/dangerous working conditions • some jobs are well paid and will lead to increases in income inequalities • there is a range of environmental issues linked to mining (water pollution, deforestation) <p>AO2</p> <p>Possible argument for 'curse':</p> <ul style="list-style-type: none"> • Colonial powers, who controlled the three countries' resources in the first half of the 20th century, are likely to have actively suppressed education for the poor/landless because an educated population might have threatened their control • There doesn't appear to be a strong relationship between proportion of GDP generated from exporting natural resources and the GDP per person, which suggests that being naturally rich in resources is not equivalent to a high standard of living • Many jobs in the oil industry might not go to local people but instead immigrants from the West/China therefore the money made from oil does not trickle down to local people • TNC profits from resource extraction are likely to be repatriated which leaves little for the three countries' governments in tax revenue that could support state welfare, which impacts the poorest disproportionately • There is often a link between conflict and mineral resources, with mining areas controlled by military groups in the DRC, or the oil and diamond industries being used to fund the Angolan civil war, which may disproportionately impact on the poorest people • Environmental costs are seldom included in any analysis so any short term economic gains are offset by longer-term environmental damage, for example the deforestation in the DRC. The need for conservation strategies has increased • An important cost to the environment is the destruction of habitats and pollution of local water bodies which not only reduces biodiversity but can also increase issues of water insecurity for local people. This could lead

Question number	Indicative content
	<p>to local conflict or even international conflict over the trans-boundary Congo River</p> <ul style="list-style-type: none"> • All three countries are heavily reliant on China (both for imports and exports) making them dependent on China's status as a global economic power. This makes them vulnerable to any economic slowdown where China's buying power is reduced, reducing the three countries' revenue, and/or China's exports reduce, potentially derailing the three countries' economic development. <p>Possible arguments for 'blessing':</p> <ul style="list-style-type: none"> • There are direct and indirect jobs created in industries that have higher levels of pay than the subsistence agriculture that was likely to have been present in these countries before these resources were exploited • Access through tropical rainforest, swamps and water bodies to obtain the rich natural resources (particularly in Congo and the DRC) requires infrastructure that can act as a catalyst for development • Industrial development produces increased tax revenues (however small) that the governments of all three countries could use to improve infrastructure and services. Improved access to electricity (which is as low as 15% in the DRC) and healthcare to reduce infant mortality (which is as high as 102/1000 in Angola) would improve the chance that people living in these countries live beyond their 50s. • The situation may improve over time (Rostow model or Kuznet's curve) as it did in what are now developed countries. What could seem a curse, at this point in time for these countries, could be seen as the short-term drawbacks of a greater long-term benefit. • It may be that the resources are themselves a blessing, but it is their management that turns them into a curse. The rich resources would have played a large part in attracting the colonial powers to the countries in the first place. In the present day, all three countries still have important trade connections with their colonisers, and France still imports \$0.9 billion of goods from the Congo. However these countries, particularly the DRC, have a history of poor governance post-independence with proceeds from the resource 'blessing' channelled into hands of a small elite; Over 70% of people in the DRC live on less than US\$1.25 per day. • Resources may be more of a blessing if they are diversified. Countries, such as DRC, with a diversity of resource exports will be less sensitive to commodity price fluctuations than countries which rely on few resource exports, such as Congo and Angola, and therefore will gain a comparable advantage at these times. • Sometimes resources are more of a blessing than at other times, for example due to price fluctuations or the rise of new technologies such as smartphones and tablets. The production of lithium batteries in mobile phones and tablets relies on cobalt, which has had a stable price of US\$35 to US\$45. However, between 2005 and 2008 prices peaked at US\$85, which would have been a short-term blessing for the DRC as the world's largest producer. Crude oil on the other hand, which Angola is reliant on, has fluctuated more with lows of US\$20 to highs of US\$115. Over time this can be considered more of a blessing for Angola because

Question number	Indicative content
	<p>prices have trended upwards.</p> <p>A03</p> <ul style="list-style-type: none"> • Introduction to Section A: all three countries were previously colonies, with the DRC and Congo gaining independence in 1960, and Angola experiencing a lengthy war to gain independence in 1975 and then experiencing civil war for almost 30 years until 2002, which indicates that there has been an unsettled political climate in the region • Figure 9: the countries with the highest GDP per capita have smaller proportions of their GDP coming from fossil fuels, mineral and ore exports - for example, Argentina has a GDP per capita of approximately \$14,500 and about 9% GDP from exports, whereas Angola has approximately half the GDP per capita and 97% GDP from exports. • Figure 12 includes opinion and views of external interest of groups such as American media and conservation charities, so their agendas should be taken into account • Figure 12: view 4 argues that resource rich countries benefit in terms of economic growth • Figure 11 shows two extremes of resource development but there are likely to be a continuum of approaches that have varied impacts • Figure 3, Figure 12 show that inequality is high in all countries; this might suggest the poorest simply never see any resource wealth (no trickle down); • Figure 12: issues of corruption are mentioned. View 1 makes this point. Poverty, child labour, exploitation are all serious issues; • Figure 11 suggests mining is arduous and likely to be dangerous • Figure 10 and 11: resources show that deforestation is slow compared to other areas, but this may not last as significant areas of DRC have been licensed for artisanal and commercial logging ensuring future degradation • Figure 11: there are possible issues with soil erosion from mining and possibly oil spills off the coast of Angola/Congo • Figure 10: future deforestation and widespread degradation could result if localised mineral exploration in DRC turns into widespread exploitation • Figure 10: some large areas of DRC are protected

Level	Mark	Descriptor
	0	No rewardable material.
Level 1	1–6	<ul style="list-style-type: none"> • 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. (AO2) • Applies knowledge and understanding of geographical information/ideas 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) • Makes superficial judgements about the value and reliability of quantitative and qualitative data/evidence. (AO3) • Investigates the question/issue to produce a limited interpretation of quantitative and qualitative data/evidence, but lacks meaningful connections to geographical ideas from across the course of study. (AO3)
Level 2	7–12	<ul style="list-style-type: none"> • 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 information/ideas 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) • Makes some valid judgements about the value and reliability of quantitative and qualitative data/evidence. (AO3) • Investigates the question/issue to produce an interpretation of quantitative and qualitative data/evidence, making few connections to geographical ideas from across the course of study, which may not be meaningful. (AO3)

Level	Mark	Descriptor
Level 3	13-18	<ul style="list-style-type: none"> • 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 information/ideas 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) • Makes mostly valid judgements about the value and reliability of quantitative and qualitative data/evidence. (AO3) • Critically investigates the question/issue to produce a coherent interpretation of quantitative and qualitative data/evidence, making connections to relevant geographical ideas from across the course of study, some of which are meaningful. (AO3)
Level 4	19-24	<ul style="list-style-type: none"> • 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) • Makes valid judgements about the value and reliability of quantitative and qualitative data/evidence throughout. (AO3) • Critically investigates the question/issue to produce a coherent interpretation of quantitative and qualitative data/evidence, comprehensively making meaningful connections to relevant geographical ideas from across the course of study throughout the response. (AO3)

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