OCR
Oxford Cambridge and RSA

GCE

Geography

Unit **H081/01:** Landscape and place

Advanced Subsidiary GCE

Mark Scheme for June 2018

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This mark scheme is published as an aid to teachers and students, to indicate the requirements of the examination. It shows the basis on which marks were awarded by examiners. It does not indicate the details of the discussions which took place at an examiners' meeting before marking commenced.

All examiners are instructed that alternative correct answers and unexpected approaches in candidates' scripts must be given marks that fairly reflect the relevant knowledge and skills demonstrated.

Mark schemes should be read in conjunction with the published question papers and the report on the examination.

Annotations

Annotation	Meaning
SEEN	Point has been seen and noted
?	Indicates a whole answer for which there is no credit
BP	Must be used on all blank pages where there is no candidate response
DEV	Development of a point
IRRL	Irrelevant; a significant amount of material that does not answer the question
L1	Level 1
L2	Level 2
L3	Level 3
L4	Level 4
NE	No place specific detail
R	Rubric error (place at start of Question not being counted)
	Highlighting AO2 credit as advised. This is used in conjunction with the highlight tool for identifying AO1
✓	Point mark questions where indicated by the tick in the mark scheme

Subject–specific Marking Instructions

INTRODUCTION

Your first task as an Examiner is to become thoroughly familiar with the material on which the examination depends. This material includes:

- the specification, especially the assessment objectives
- the question paper and its rubrics
- the mark scheme.

You should ensure that you have copies of these materials.

You should ensure also that you are familiar with the administrative procedures related to the marking process. These are set out in the OCR booklet **Instructions for Examiners**. If you are examining for the first time, please read carefully **Appendix 5 Introduction to Script Marking: Notes for New Examiners**.

Please ask for help or guidance whenever you need it. Your first point of contact is your Team Leader.

USING THE MARK SCHEME

Please study this Mark Scheme carefully. The Mark Scheme is an integral part of the process that begins with the setting of the question paper and ends with the awarding of grades. Question papers and Mark Schemes are developed in association with each other so that issues of differentiation and positive achievement can be addressed from the very start.

This Mark Scheme is a working document; it is not exhaustive; it does not provide 'correct' answers. The Mark Scheme can only provide 'best guesses' about how the question will work out, and it is subject to revision after we have looked at a wide range of scripts.

The Examiners' Standardisation Meeting will ensure that the Mark Scheme covers the range of candidates' responses to the questions, and that all Examiners understand and apply the Mark Scheme in the same way. The Mark Scheme will be discussed and amended at the meeting, and administrative procedures will be confirmed. Co–ordination scripts will be issued at the meeting to exemplify aspects of candidates' responses and achievements; the co–ordination scripts then become part of this Mark Scheme.

Before the Standardisation Meeting, you should read and mark in pencil a number of scripts, in order to gain an impression of the range of responses and achievement that may be expected.

In your marking, you will encounter valid responses which are not covered by the Mark Scheme: these responses must be credited. You will encounter answers which fall outside the 'target range' of Bands for the paper which you are marking. Please mark these answers according to the marking criteria.

Please read carefully all the scripts in your allocation and make every effort to look positively for achievement throughout the ability range. Always be prepared to use the full range of marks.

LEVELS OF RESPONSE QUESTIONS:

The indicative content indicates the expected parameters for candidates' answers, but be prepared to recognise and credit unexpected approaches where they show relevance.

Using 'best–fit', decide first which set of level descriptors best describes the overall quality of the answer. Once the level is located, adjust the mark concentrating on features of the answer which make it stronger or weaker following the guidelines for refinement.

Highest mark: If clear evidence of all the qualities in the level descriptors is shown, the HIGHEST Mark should be awarded.

Lowest mark: If the answer shows the candidate to be borderline (i.e. they have achieved all the qualities of the levels below and show limited evidence of meeting the criteria of the level in question) the LOWEST mark should be awarded.

Middle mark: This mark should be used for candidates who are secure in the level. They are not 'borderline' but they have only achieved some of the qualities in the level descriptors.

Be prepared to use the full range of marks. Do not reserve (e.g.) highest level marks 'in case' something turns up of a quality you have not yet seen. If an answer gives clear evidence of the qualities described in the level descriptors, reward appropriately.

Quality of extended response will be assessed in questions marked with an (*). Quality of extended response is not attributed to any single assessment objective but instead is assessed against the entire response for the question.

	AO1	AO2	AO3	Quality of extended response
Comprehensive	A wide range of detailed and accurate knowledge that demonstrates fully developed understanding that shows full relevance to the demands of the question. Precision in the use of question terminology.	Knowledge and understanding shown is consistently applied to the context of the question, in order to form a: clear, developed and convincing analysis that is fully accurate. clear, developed and convincing interpretation that is fully accurate. detailed and substantiated evaluation that offers secure judgements leading to rational conclusions that are evidence based.	Quantitative, qualitative and/or fieldwork skills are used in a consistently appropriate and effective way and with a high degree of competence and precision.	There is a well-developed line of reasoning which is clear and logically structured. The information presented is relevant and substantiated.
Thorough	A range of detailed and accurate knowledge that demonstrates well developed understanding that is relevant to the demands of the question. Generally precise in the use of question terminology.	Knowledge and understanding shown is mainly applied to the context of the question, in order to form a: clear and developed analysis that shows accuracy. clear and developed interpretation that shows accuracy. detailed evaluation that offers generally secure judgements, with some link between rational conclusions and evidence.	Quantitative, qualitative and/or fieldwork skills are used in a suitable way and with a good level of competence and precision.	There is a line of reasoning presented with some structure. The information presented is in the most-part relevant and supported by some evidence.

	AO1	AO2	AO3	Quality of extended response
Reasonable	Some sound knowledge that demonstrates partially developed understanding that is relevant to the demands of the question. Awareness of the meaning of the terms in the question.	Knowledge and understanding shown is partially applied to the context of the question, in order to form a: sound analysis that shows some accuracy. sound interpretation that shows some accuracy. sound evaluation that offers generalised judgements and conclusions, with limited use of evidence.	Quantitative, qualitative and/or fieldwork skills are used in a mostly suitable way with a sound level of competence but may lack precision.	The information has some relevance and is presented with limited structure. The information is supported by limited evidence.
Basic	Limited knowledge that is relevant to the topic or question with little or no development. Confusion and inability to deconstruct terminology as used in the question.	Knowledge and understanding shows limited application to the context of the question in order to form a: simple analysis that shows limited accuracy. simple interpretation that shows limited accuracy. Un-supported evaluation that offers simple conclusions.	Quantitative, qualitative and/or fieldwork skills are used inappropriately with limited competence and precision.	The information is basic and communicated in an unstructured way. The information is supported by limited evidence and the relationship to the evidence may not be clear.

Question			Answer	Marks	Guidance
1	(a)	(i)	**Study Fig. 1 which shows a coastal landscape in Norfolk. Using evidence from Fig. 1, describe one distinctive coastal landform.** *Cliff:* • vertical face / steep slope (✓) • block-shaped indentations on cliff face (✓) • rock fall with large angular rock debris / talus at base of cliff / upper part of beach (✓) • wave-cut notch (allow evidence of undercutting) - rectangular shaped (✓) • horizontal rock strata – three layers distinguished by colour (✓) • jointed rock – horizontal / vertical / irregular (✓) *Beach:* • regular slope, angle is down from cliff base (✓) • extends along length of cliff (covers shore platform) (✓) • particle size varies - shingle to large blocks (✓) • rock debris / talus covers upper part of beach (✓)	**3** **AO3 x3**	**AO3 – 3 marks** 3 x 1 (✓) for each valid descriptive point No credit for simply naming the feature Accept headland as a landform; do not accept wave cut notch on its own – must be as part of a cliff No credit for explanation If the candidate has done two landforms, award the marks for the one they've done best
1	(a)	(ii)	**Suggest one way in which geology has influenced the shape of the landform identified in (a)(i).** Hardness of rocks (✓) strong bonding between rock particles (DEV) lithology of this rocky coastline is resistant (DEV) and influences type of sub-aerial process such as rock fall (DEV) High density of joints in the chalk (✓) contributes to vertical cliff profile (DEV) since joints make it easier for	**4** **AO2 x4**	**AO2 – 4 marks** Allow geological structure and / or lithology. These affect outcomes of weathering and erosion processes (past and present) which have influenced the shape of the landforms in the coastal landscape system. 1 x 1 (✓) for an appropriate feature of geology evident in the photograph.

Question			Answer	Marks	Guidance
			upper strata to collapse (DEV) leading to parallel retreat (DEV) following undercutting of lower strata by marine processes (DEV). Horizontal and vertical jointing of lowest rock strata (✓) enables greater susceptibility to hydraulic action (DEV) this adds to rock particles on beach which are subject to attrition (DEV) and contribute to abrasion (DEV) leading to formation of notch at base of cliff (DEV). Horizontally bedded strata supports cliffs with steep profiles (DEV)		3 x 1 (DEV) for each valid link between the influence of geology and the morphology of the chosen landform. If the candidate has identified an incorrect landform in 1ai they are still able to gain credit in 1aii. Accept answers that discuss the rock is soft or the rock is hard. If two separate ideas are developed, credit the one that is done best.
1	**(b)**		**Explain the formation of spits.** **Level 3 (6–8 marks)** Demonstrates **thorough** knowledge and understanding of how a spit is formed (AO1). This will be shown by including **well-developed** ideas about spit formation. **Level 2 (3–5 marks)** Demonstrates **reasonable** knowledge and understanding of how a spit is formed (AO1). This will be shown by including **developed** ideas about spit formation. **Level 1 (1–2 marks)** Demonstrates **basic** knowledge and understanding of how a spit is formed (AO1). This will be shown by including **simple** ideas about spit formation.	**8** **AO1 x8**	**Indicative content** **AO1 – 8 marks** Knowledge and understanding of the formation of spits could potentially include: • transport of beach material (such as sand, shingle) by longshore drift in one dominant direction (drift aligned beaches where waves are fully refracted) • beach material transported towards distal end of beach and into open water • deposition occurs where wave energy is reduced • spit grows across a bay, estuary, river mouth or where there is an abrupt indentation of the coast • recurved laterals may be the result of wave refraction around the distal end or the presence of a secondary wave direction • further deposition of fine material in the sheltered waters behind the spit may form mud flats and salt marshes colonised by halophytic vegetation

Question			Answer	Marks	Guidance
			0 marks No response worthy of credit.		• most spits are associated with coastlines that have low tidal range (where wave action is effective over a narrow vertical zone) • some spits may have been initiated by an offshore bar driven on-shore by post-glacial sea level rise • all spits are dynamic landforms, subject to changing marine processes and supply of material Explanation may be helped by a labelled and/or annotated diagram(s), but there is no requirement for this.
1	**(c)***		**'Human activity is the main cause of landscape change within coastal systems.' How far do you agree with this view?** **AO1** **Level 3 (6–8 marks)** Demonstrates **comprehensive** knowledge and understanding of landscape change within coastal systems caused by human activity and other factors. The answer should include **accurate place-specific** detail. Amount of place-specific detail determines credit within the level. **Level 2 (3–5 marks)** Demonstrates **thorough** knowledge and understanding of landscape change within coastal systems caused by human activity and other factors. The answer should include **some place-specific** detail which is **partially accurate**. Amount of place-specific detail determines credit within the level.	**14** **AO1 x8** **AO2 x6**	**Indicative content** **AO1 – 8 marks** Knowledge and understanding of human activity and other factors which cause landscape change could potentially include: *Human activity:* • impact of urban growth including port and / or resort developments • impact of individual industrial and energy developments such as a nuclear power station • resource extraction such as rock quarrying or sand mining • shoreline management including hard and soft engineering *Other factors / natural processes:* • marine processes of erosion, transport and deposition including landscape changes such as cliff retreat, changes in beach profiles and growth / erosion of spits • sub-aerial processes including weathering, for example the effects of cliff collapse, falls, flows and slides on cliff

Question	Answer	Marks	Guidance
	Level 1 (1–2 marks) Demonstrates **basic** knowledge and understanding of landscape change within coastal systems caused by human activity and other factors. There is an attempt to include **place-specific** detail but it is **inaccurate.** **0 marks** No response worthy of credit. **AO2** **Level 3 (5–6 marks)** Application of knowledge and understanding is **comprehensive**. Analysis is clear, developed and accurate. Evaluation of the extent to which landscape change within coastal systems is caused by human activity and other factors is detailed. Judgements are secure, evidence-based and lead to rational conclusions. **Level 2 (3–4 marks)** Application of knowledge and understanding is **thorough**. Analysis is sound and shows some accuracy. Evaluation of the extent to which landscape change within coastal systems is caused by human activity and other factors is sound. Judgements and conclusions are generalised with limited use of evidence. **Level 1 (1–2 marks)** Application of knowledge and understanding is **basic**. Analysis is simple and shows limited accuracy. Evaluation of the extent to which landscape change within coastal systems is caused by human activity and other factors is un-supported. Conclusions are simple.		profiles and longer term changes such as carbonation • sea level rise leading to local flooded landscapes in low lying areas, and longer term effects such as ria or fjord formation • storm events including their short term impact on marine and sub-aerial processes • tectonic activity can affect coastal landscapes such as the impact of earthquakes and volcanoes in the short term • growth or loss of salt marsh, sand dune or coral ecosystems **AO2 – 6 marks** Application of knowledge and understanding to analyse and evaluate the relative importance of human activity and other factors in causing landscape change could potentially include: • urban and industrial developments have significant visual impact on the landscape • tourist activity can have negative impact on fragile coastal ecosystems such as dune systems • resource extraction may have significant effects on the coastal sediment budget by its impact on stores and flows of material • shoreline management such as hard engineering coastal defences has visual impact • hard engineering such as groynes affects stores and flows of sediment and has an impact on wave energy within the coastal system • shoreline management at one location may have unintended knock-on effects at other coastal locations such as increased erosion

Question			Answer	Marks	Guidance
			0 marks No response worthy of credit. **Quality of extended response** **Level 3** There is a well-developed line of reasoning which is clear and logically structured. The information presented is relevant and substantiated. **Level 2** There is a line of reasoning presented with some structure. The information presented is in the most-part relevant and supported by some evidence. **Level 1** The information is basic and communicated in an unstructured way. The information is supported by limited evidence and the relationship to the evidence may not be clear.		• human activity may have positive impacts on coastal landscape systems through conservation and preservation such as designation of national parks and AONBs • at global scale, generally human activity may lead to warming, rise in sea level, increased frequency and intensity of storms, which may have significant impact on coastal systems in some localities • evaluation of the relative importance of human activity and other (natural) factors / processes on coastal landscape systems For L3 in AO1 some place specific detail must be evident.

Question			Answer	Marks	Guidance
2	(a)	(i)	**Study Fig. 2 which shows a glaciated landscape in Scotland. Using evidence from Fig. 2, describe one distinctive glacial landform.** *Corrie:* • steep back wall slopes(✓) • jagged skyline / semi-circular back wall • back wall has rough, plucked surface of bare rock (✓) • armchair shaped over-deepened basin (✓) • flatter, smoother floor including lake (✓) • scree slopes cover parts of back wall (✓) • evidence of a corrie lip (✓) *Scree slope:* • steep slopes (✓) • angular rock particles (✓) • larger particles / rocks on lower slopes (✓) • situated on corrie back walls (✓) • bare rock / active / recent scree; grass covered / weathered / older scree (✓)	**3** **AO3 x3**	**AO3 – 3 marks** 3 x 1 (✓) for each valid descriptive point Also accept: tarn, striations, arête. Valley and 'lake' are not creditworthy.
2	(a)	(ii)	**Suggest one way in which geology has influenced the shape of the landform identified in (a)(i).** Hardness of the rock (✓) strong bonding between rock particles (DEV) makes back wall / corrie lip relatively resistant to glacial erosion (DEV) and to post-glacial processes such as aeolian or fluvial erosion (DEV) therefore landscape features such as corrie back wall are high prominent features (DEV) with sharp, jagged skylines (DEV) and corrie lip has a smooth slightly elevated surface with rock striations (DEV).	**4** **AO2 x4**	**AO2 – 4 marks** Allow geological structure and / or lithology. These affect outcomes of weathering and erosion processes (past and present) which have influenced the shape of the landforms in the glaciated landscape system. 1 x 1 (✓) for an appropriate feature of geology evident in the photograph.

Question			Answer	Marks	Guidance
			Jointed rock (✓) assists in collection of water needed for frost shattering process of mechanical weathering (DEV) relatively high frequency of free-thaw cycles at altitude (DEV) leads to rock falls / formation of scree slopes (DEV) angular blocks (DEV) which replace / cover the glacially eroded surfaces of corrie back wall (DEV)		3 x 1 (DEV) for each valid link between the influence of geology and the morphology of the chosen landform. If the candidate has identified an incorrect landform in 2ai they are still able to gain credit in 2aii. If two separate ideas are developed, credit the one that is done best.
2	**(b)**		**Explain the formation of terminal moraines.** **Level 3 (6–8 marks)** Demonstrates **thorough** knowledge and understanding of how a terminal moraine is formed (AO1). This will be shown by including **well-developed** ideas about terminal moraine formation. **Level 2 (3–5 marks)** Demonstrates **reasonable** knowledge and understanding of how a terminal moraine is formed (AO1). This will be shown by including **developed** ideas about terminal moraine formation. **Level 1 (1–2 marks)** Demonstrates **basic** knowledge and understanding of how a terminal moraine is formed (AO1). This will be shown by including **simple** ideas about terminal moraine formation. **0 marks** No response worthy of credit.	**8** **AO1 x8**	**Indicative content** **AO1 – 8 marks** Knowledge and understanding of the formation of terminal moraines could potentially include: • transportation of rock particles down valley / slope by a glacier or continental ice sheet • deposition of material occurs as sediment accumulates when the ice front is stationary and has reduced energy / forward advance • deposition is usually the direct result of ablation or if the glacier is overloaded with debris • deposition of glacial material produces a ridge formed at the ice front • the material deposited is often crescentic in plan across a valley or at right angles to direction of ice flow since ice in the middle of a valley glacier advances further than at valley sides or a continental ice sheet is lobate • size of terminal moraine depends on amount of material and length of period the glacier remains at its furthest extent • asymmetrical in profile with steeper up-valley slope since ice supports the deposits and makes them less likely to

Question			Answer	Marks	Guidance
					collapse • cross-valley terminal moraine may be dissected by meltwater / post-glacial streams Explanation may be helped by a labelled and/or annotated diagram(s), but there is no requirement for this.
2	(c)*		**'Human activity is the main cause of landscape change within periglacial systems.' How far do you agree with this view?** **AO1** **Level 3 (6–8 marks)** Demonstrates **comprehensive** knowledge and understanding of landscape change within periglacial systems caused by human activity and other factors. The answer should include **accurate place-specific** detail. Amount of place-specific detail determines credit within the level. **Level 2 (3–5 marks)** Demonstrates **thorough** knowledge and understanding of landscape change within periglacial systems caused by human activity and other factors. The answer should include **some place-specific** detail which is **partially accurate**. Amount of place-specific detail determines credit within the level. **Level 1 (1–2 marks)** Demonstrates **basic** knowledge and understanding of landscape change within periglacial systems caused by human activity and other factors.	**14** **AO1 x8** **AO2 x6**	**Indicative content** **AO1 – 8 mark** Knowledge and understanding of human activity and other factors which cause landscape change could potentially include: *Human activity:* • mineral extraction – oil, gas • transportation - pipelines, roads, bridges, airstrips • gravel extraction for construction • impact of urban growth including port developments • impact of individual industrial and energy developments such as a pumping stations and drilling rigs *Other factors / natural processes:* • freeze-thaw weathering and formation of talus slopes / scree • frost heave and formation of patterned ground • development of ground ice and formation of pingos • thawing of ground ice and formation of thermokarst • gelifluction / solifluction and formation of solifluction sheets, lobes and terraces, and asymmetric valleys

Question			Answer	Marks	Guidance
			There is an attempt to include **place-specific** detail but it is **inaccurate.** **0 marks** No response worthy of credit. **AO2** **Level 3 (5–6 marks)** Application of knowledge and understanding is **comprehensive**. Analysis is clear, developed and accurate. Evaluation of the extent to which landscape change within periglacial systems is caused by human activity and other factors is detailed. Judgements are secure, evidence-based and lead to rational conclusions. **Level 2 (3–4 marks)** Application of knowledge and understanding is **thorough**. Analysis is sound and shows some accuracy. Evaluation of the extent to which landscape change within periglacial systems is caused by human activity and other factors is sound. Judgements and conclusions are generalised with limited use of evidence. **Level 1 (1–2 marks)** Application of knowledge and understanding is **basic**. Analysis is simple and shows limited accuracy. Evaluation of the extent to which landscape change within periglacial systems is caused by human activity and other factors is un-supported. Conclusions are simple. **0 marks** No response worthy of credit. **Quality of extended response** **Level 3** There is a well-developed line of reasoning which is		**AO2 – 6 marks** Application of knowledge and understanding to analyse and evaluate the relative importance of human activity and other factors in causing landscape change could potentially include: • visual impact on landscape of urban, industrial, energy and transport developments • heat energy, produced by urban, industrial and transport developments, released into the environment affects the landscape through its effect on geomorphic processes such as thawing of permafrost, increasing mobility of the active layer, solifluction, number of freeze-thaw cycles • removal of vegetation in this fragile ecosystem for resource extraction or construction leads to increase in areas of thermokarst / subsidence • resource extraction may have significant impact on stores and flows of material and energy such as effects of gravel extraction from outwash plains on river systems • release and burning of gas during drilling contribute to enhanced greenhouse effect and raising of temperature with consequent impact on periglacial landforms • human activity may have positive impacts on periglacial landscape systems through conservation and preservation such as designation of wildlife reserves • not all human activity is harmful to these landscapes • evaluation of the relative importance of human activity and

Question			Answer	Marks	Guidance
			clear and logically structured. The information presented is relevant and substantiated. **Level 2** There is a line of reasoning presented with some structure. The information presented is in the most-part relevant and supported by some evidence. **Level 1** The information is basic and communicated in an unstructured way. The information is supported by limited evidence and the relationship to the evidence may not be clear.		other factors / natural processes on periglacial landscape systems For L3 in AO1 some place specific detail must be evident.

Question			Answer	Marks	Guidance
3	(a)	(i)	**Study Fig. 3 which shows a dryland landscape in California. Using evidence from Fig. 3, describe one distinctive dryland landform.** *Ventifacts:* • small rocks (✓) • smooth, flat surfaces (✓) • one jagged/unsmooth surface (✓) *Pedestal Rocks:* • undercutting evident/narrower at the base (✓) • often found as a group of rocks (zeugens) (✓) • detached from the surrounding rocks (✓)	**3** **AO3 x3**	**AO3 – 3 marks** 3 x 1 (✓) for each valid descriptive point Only credit landforms and descriptive points that are evident in the resource. For pedestal rocks do not credit mushroom-shaped as this cannot be seen. Do not accept inselbergs or pediment.
3	(a)	(ii)	**Suggest one way in which geology has influenced the shape of the landform identified in (a)(i).** Hardness of rock (✓) strong bonding of rock particles / interlocking crystals (DEV) contributes to resistance to erosion (DEV) leading to differential erosion (DEV) Rock is uniform in lithology (✓) contributes to rounded, smooth surfaces (DEV) as a result of insolation weathering (DEV) which causes flaking of the rock parallel to the surface (DEV) where there are frequent and large diurnal changes in temperature (DEV)	**4** **AO2 x4**	**AO2 – 4 marks** Allow geological structure and / or lithology. These affect outcomes of weathering and erosion processes (past and present) which have influenced the shape of the landforms in the dryland landscape system. 1 x 1 (✓) for an appropriate feature of geology evident in the photograph. 3 x 1 (DEV) for each valid link between the influence of geology and the morphology of the chosen landform. If the candidate has identified an incorrect landform in 3ai they are still able to gain credit in 3aii. If two separate ideas are developed, credit the one that is done best.

Question			Answer	Marks	Guidance
3	(b)		**Explain the formation of alluvial fans.** **Level 3 (6–8 marks)** Demonstrates **thorough** knowledge and understanding of how an alluvial fan is formed (AO1). This will be shown by including **well-developed** ideas about alluvial fan formation. **Level 2 (3–5 marks)** Demonstrates **reasonable** knowledge and understanding of how an alluvial fan is formed (AO1). This will be shown by including **developed** ideas about alluvial fan formation. **Level 1 (1–2 marks)** Demonstrates **basic** knowledge and understanding of how an alluvial fan is formed (AO1). This will be shown by including **simple** ideas about alluvial fan formation. **0 marks** No response worthy of credit.	**8** **AO1 x8**	**Indicative content** **AO1 – 8 marks** Knowledge and understanding of the formation of alluvial fans could potentially include: • much sediment available, especially due to lack of vegetation roots to bind loose particles • transportation of huge sediment load by rivers during thunderstorms / flash floods • valley is narrow, steep sided and has steep long profile in its mountain course • deposition of alluvial fan occurs where channel gradient changes abruptly as the river leaves the mountains • once in the lowland, the river is no longer confined and there is sudden loss of fluvial energy at this point • cone-shaped alluvial fan forms at the foot of the steep slopes as the single main channel splits into many smaller channels, creating a delta-shaped fan with a concave profile • near the mountain front the sediment of the alluvial fan tends to be coarser and forms deeper deposits; with distance from the mountain front the material becomes finer and less deep • the alluvial fan is formed by ephemeral streams during periods of sudden change in energy from high to low; most of the time the alluvial fan is dry Explanation may be helped by a labelled and/or annotated diagram(s), but there is no requirement for this.

Question			Answer	Marks	Guidance
3	(c)*		**'Human activity is the main cause of landscape change within dryland systems.' How far do you agree with this view?** **AO1** **Level 3 (6–8 marks)** Demonstrates **comprehensive** knowledge and understanding of changes in dryland landscape systems caused by their use by people and other factors. The answer should include **accurate place-specific** detail. Amount of place-specific detail determines credit within the level. **Level 2 (3–5 marks)** Demonstrates **thorough** knowledge and understanding of the changes in dryland landscape systems caused by their use by people and other factors. The answer should include **some place-specific** detail which is **partially accurate**. Amount of place-specific detail determines credit within the level. **Level 1 (1–2 marks)** Demonstrates **basic** knowledge and understanding of the changes in dryland landscape systems caused by use by people and other factors. There is an attempt to include **place-specific** detail but it is **inaccurate.** **0 marks** No response worthy of credit.	**14** **AO1 x8** **AO2 x6**	**Indicative content** **AO1 – 8 marks** Knowledge and understanding of human activity and other factors which cause landscape change could potentially include: *Human activity:* • urban growth – rapid rates of population growth and rural-urban migration • agricultural development – irrigated arable schemes, pastoralism • tourism and recreation, such as adventure recreation including hikers, mountain bikers and motorised recreation • control of river catchments by damming river channels to meet demands from urban populations and irrigation *Other factors / natural processes:* • weathering processes such as hydration, salt and insolation weathering or freeze-thaw • erosion, transport and deposition processes – aeolian and fluvial • mass movement of material such as rock falls and rock slides

Question	Answer	Marks	Guidance
	AO2 **Level 3 (5–6 marks)** Application of knowledge and understanding is **comprehensive**. Analysis is clear, developed and accurate. Evaluation of the extent to which landscape change within dryland systems is caused by human activity and other factors is detailed. Judgements are secure, evidence-based and lead to rational conclusions. **Level 2 (3–4 marks)** Application of knowledge and understanding is **thorough**. Analysis is sound and shows some accuracy. Evaluation of the extent to which landscape change within dryland systems is caused by human activity and other factors is sound. Judgements and conclusions are generalised with limited use of evidence. **Level 1 (1–2 marks)** Application of knowledge and understanding is **basic**. Analysis is simple and shows limited accuracy. Evaluation of the extent to which landscape change within dryland systems is caused by human activity and other factors is un-supported. Conclusions are simple. **0 marks** No response worthy of credit. **Quality of extended response** **Level 3** There is a well-developed line of reasoning which is clear and logically structured. The information presented is relevant and substantiated.		**AO2 – 6 marks** Application of knowledge and understanding to analyse and evaluate the relative importance of human activity and other factors in causing landscape change could potentially include: • urban, industrial and water developments have significant visual impact on the landscape • mismanaged agricultural practices such as overgrazing or over-irrigation can lead to degradation of the landscape such as soil erosion or salinization • dam construction alters flows of water and sediment which affect geomorphic processes and disrupt the equilibrium which previously existed within the dryland landscape system • lakes created by dams have affected stream energy and flows of water and sediment within wadi catchments above the lakes; wadi channels have decreased in width and depth and there has been aggradation of material on pediment surfaces • dune fields, below dams, have been starved of sediment and degraded; fragile cryptobiotic crusts and xerophytic vegetation have been exposed to wind erosion • visitors to drylands using quadbikes cause significant erosion to surface layers with knock on effects such as enhanced wind deflation and disruption to fauna and flora • human activity may have positive impacts on dryland landscape systems through conservation and preservation such as designation of National Parks • evaluation of the relative importance of human activity and other factors / natural processes on dryland landscape systems

Question			Answer	Marks	Guidance
			Level 2 There is a line of reasoning presented with some structure. The information presented is in the most-part relevant and supported by some evidence. **Level 1** The information is basic and communicated in an unstructured way. The information is supported by limited evidence and the relationship to the evidence may not be clear.		For L3 in AO1, place study detail must be evident.

Question			Answer	Marks	Guidance
4	(a)		**Explain <u>two</u> ways in which religion influences peoples' perception of places.** Explanation of ways in which religion influences differing perception of place could include: • People belonging to the dominant religion of that place may feel more comfortable/it holds spiritual meaning to them (✓), for example, Christians in church, Muslims in mosques (DEV) [also accept the reverse idea] • natural landscape features are sacred in the religion of peoples (✓) important in the history and meaning of their religion / spiritual life such as Uluru for Australian Aborigines (DEV) • places of refuge, peace and healing are associated with religions (✓) shrines, and wells have become important such as Lourdes (DEV) • places of pilgrimage are significant for religious groups (✓) sacred temples, and other holy sites such as Mecca, considered by Muslims to be the holiest city of Islam (DEV)	**4** **AO1 x4**	**AO1 – 4 marks** 2 x 1 (✓) for each point that identifies a way in which perception of place is influenced by religion. 2 x 1 (DEV) for explanation of each way in which perception of place is influenced by religion. Exemplification is not essential but it may be creditworthy where it demonstrates knowledge and understanding of the link between peoples' perception of a place and their religion.
4	(b)	(i)	**Study <u>Fig. 4A</u>, poverty indicators for Barking and Dagenham and Kingston-upon-Thames. Barking and Dagenham and Kingston-upon-Thames are two of the administrative districts or boroughs of the Greater London urban area.** **Using statistical evidence from <u>Fig.4A</u>, state <u>one</u> contrast in poverty between Barking and Dagenham and Kingston-upon-Thames.**	**1** **AO3 x1**	**AO3 – 1 mark** 1 x 1 mark (✓) for a statement which identifies contrasting statistical evidence for each of the two boroughs based on an appropriate indicator of poverty in Fig. 4A. Explanation is not required. Figures are not required but there must be a comparative such as higher/lower. If the candidate works out the difference to illustrate the contrast, then this is acceptable.

Question			Answer	Marks	Guidance
			Indicators of poverty and contrasting statistical evidence include: • child poverty rates are higher in Barking and Dagenham (37%) than in Kingston (21%) (✓) • proportion of working-age population receiving out-of-work benefits is higher in Barking and Dagenham (13.2%) than in Kingston (5.4%) (✓) • number of landlord evictions of households who were renting property is higher in Barking and Dagenham (20.7/1,000) than in Kingston (8.8/1,000) (✓)		
4	**(b)**	**(ii)**	**With reference to Fig. 4A suggest two reasons for social inequality between Barking and Dagenham and Kingston-upon-Thames.** • The level of education of the population is lower in some areas such as B&D(✓). This causes inequality because job opportunities may be limited or they may be restricted to lower paying work (DEV). • More people in B&D receive out of work benefits (✓). This causes inequality because they are less able to purchase goods and services (DEV).	**4** **AO2 x4**	**AO2 – 4 marks** 2x1 (✓) for identification of reasons for social inequality. 2x1 (DEV) for interpretation of the resource to show the link between each reason and key poverty data. The reasons must link to what can be seen in the resource; for example, differences in income would not be credited as the cause of inequality as this is not evident from 4a.
4	**(c)**		**Using evidence from Fig.4B, explain two ways in which architects and planners attempt to create meaningful and authentic places.** **Level 3 (5-6 marks)** Demonstrates **thorough** application of knowledge and understanding to provide a clear and developed analysis	**6** **AO2 x4** **AO3 x2**	**Indicative content** **AO2 – 4 marks** Application of knowledge and understanding to analyse ways in which architects and planners attempt to create meaningful and authentic places could potentially include development of: • a sense of community; by including variety of housing

Question			Answer	Marks	Guidance
			that shows accuracy to explain two ways in which architects and planners attempt to create meaningful and authentic places (AO2). Demonstrates **reasonable** investigation and interpretation of the resource to fully evidence the different design features of the Capital Park development. There must be sound ideas linking resource evidence to reasons for the designs (AO3). **Level 2 (3-4 marks)** Demonstrates **reasonable** application of knowledge and understanding to provide sound analysis that shows some accuracy to explain at least one way in which architects and planners attempt to create meaningful and authentic places (AO2). Demonstrates **basic** investigation and interpretation of the resource to evidence the different design features of the Capital Park development. There must be limited ideas linking resource evidence to reasons for the designs (AO3). **Level 1 (1-2 marks)** Demonstrates **basic** application of knowledge and understanding to provide simple analysis that shows limited accuracy to explain a way in which architects and planners attempt to create meaningful and authentic places (AO2). Demonstrates **basic** investigation and interpretation of the resource to provide limited evidence of different design features of the Capital Park development. There are limited ideas of the designs with limited or no link to resource evidence (AO3).		(size, affordability, location), retail units and recreational space • access to a range of shops and services • access to places of work in close proximity to housing • creating a range of employment opportunities • access to recreational space; to meet the needs of people with differing identity and role • improved environment; open layout, architectural style of buildings – possibly a former brownfield site • traffic free area; improved air quality, lower noise pollution and increased green space; • attractive business environment; through improved architectural design, access and environmental quality • personal safety features; such as lighting or gating **AO3 – 2 marks** Evidence from investigation and interpretation of the resource could potentially include: • housing variety: such as apartments with no gardens (Building B and D) and larger detached housing with gardens (relocated Heritage Homes) • retail access; such as centrally located Plaza Retail Pavilion - accessible by walkways for residents and office workers; or on Menzies Street in Building B • access to work; easily available in the two large office buildings A1 and A2 • recreational space; plazas, mini park, courtyards, walkways and other architecturally designed open space • environmental considerations include East / West Walkway; open space such as West and East Courtyards

Question			Answer	Marks	Guidance
			0 marks No response worthy of credit.		with grassed areas, trees and water features • overall multi-purpose design with residential, office, retail and open space encourages mixed community use
4	(d)*		**'Rebranding is always a successful strategy in the place-making process.' To what extent do you agree with this statement?** **AO1** **Level 3 (6–8 marks)** Demonstrates **comprehensive** knowledge and understanding of successful rebranding and other factors that limit its success in the place-making process. The answer should include **accurate place-specific** detail. Amount of place-specific detail determines credit within the level. **Level 2 (3–5 marks)** Demonstrates **thorough** knowledge and understanding of successful rebranding and other factors that limit its success in the place-making process. The answer should include some **place-specific** detail which is **partially accurate**. Amount of place-specific detail determines credit within the level. **Level 1 (1–2 marks)** Demonstrates **basic** knowledge and understanding of successful rebranding and other factors that limit its success in the place-making process. There is an attempt to include **place-specific** detail but it is **inaccurate**.	**14** **AO1 x8** **AO2 x6**	**Indicative content** **AO1 – 8 marks** Knowledge and understanding of the importance of different factors that have an impact on rebranding with factors contributing to success a focus. Factors contributing to successful rebranding: *Economic factors*: • new investment, either public or private, in areas where the current brand or image fails to achieve investment. This can lead to key service provision, development of infrastructure and improvements in the quality of life • investment in retail and business parks on previously brownfield sites can change the place image through improvements in the built environment • rebranding can create employment opportunities through structural economic change e.g. in regeneration of former industrial / dockland sites • rebranding through flagship development can successfully act as a catalyst to attract further investment • the legacy of sporting developments such as Olympic parks can bring successful rebranding to city areas in need of redevelopment *Social and cultural factors:* • rebranding can include successful modern planning designs such as areas of mixed community use or the 24-

Question	Answer	Marks	Guidance
	0 marks No response worthy of credit. **AO2** **Level 3 (5-6 marks)** Application of knowledge and understanding is comprehensive. Analysis is clear, developed and convincing. Evaluation of the extent to which rebranding is successful is detailed and substantiated. Judgements are secure and evidence based leading to rational conclusions. **Level 2 (3-4 marks)** Application of knowledge and understanding is reasonable. Analysis is sound with some development that is mostly relevant. Evaluation of the extent to which rebranding is successful is sound but partial. Judgements are generalised with some use of evidence leading to appropriate conclusions. **Level 1 (1-2 marks)** Application of knowledge and understanding is basic. Analysis is simple with little or no development. Evaluation of the extent to which rebranding is successful is weak or absent. Judgements, if present, are unsupported leading to simple conclusions. **0 marks** No response worthy of credit. **Quality of extended response** **Level 3** There is a well-developed line of reasoning which is clear and logically structured. The information presented		hour city • rebranding through regular art events and festivals, creating cities of culture or places reputable for high quality or specific food are often successful in developing distinctive and attractive place images *Environmental factors:* • many places successfully rebrand by redeveloping the built environment based on architectural design of buildings and spaces or incorporating heritage features • success is achieved in rebranding if air quality, noise levels, water and land pollution and green space are important aspects of the new place image Factors which limit the success of rebranding could possibly include: • where groups are alienated such as local residents • top-down planning policies which do not consider the needs of local communities • where planners have priorities which are different to other stakeholders involved • where some groups benefit more than others such as local residents • where gentrification changes the character of a place by replacement of local services, increasing house prices, and displacement of lower socio-economic groups **AO2 – 6 marks** Application of knowledge and understanding to analyse and evaluate the relative success of rebranding as a strategy in the place-making process could potentially include discussion of: • factors which lead to successful rebranding and factors which limit its success as a strategy for place making

Question			Answer	Marks	Guidance
			is relevant and substantiated. **Level 2** There is a line of reasoning with some structure. The information presented is mostly relevant and substantiated. **Level 1** There is little or no line of reasoning without structure. The information presented has little or no relevance and is superficial.		• the relative importance of economic, social, environmental and political factors in successful rebranding • the idea that all factors (economic, social, political and environmental) have an impact on the success of rebranding in combination • the issue of how success in rebranding is measured or perceived by different people • ideas that economic inputs can lead to successful rebranding if well-planned and based on peoples' needs, but unsuccessful if investors are only interested in profit • success of rebranding may vary with scale; overall success of rebranding a city such as Barcelona may not be universally agreed; rebranding of some neighbourhoods within it may be less effective and possibly reinforce social inequalities • the idea that not everyone agrees with what has been done; different perspectives on the way in which an area should be managed can generate social tensions • the idea that rebranding may be successful only from some perspectives, for example a development might be environmentally successful but less so socially For L3 in AO1, place study detail must be evident.

Question			Answer	Marks	Guidance
5	(a)	(i)	**Suggest and justify a geographical question which could be investigated using the data collected in Fig. 5b.** There is a range of possible questions that can be identified in the area shown in the data set and satellite image. Questions might focus on the following: • Human – image of place (✓), perceptions of place (✓) sphere of influence (✓), place identity (✓), place-making processes (✓). • Physical – Changes in beach profile over time (✓), geological impacts on coastal landforms (✓), coastal management (✓), river study (✓).	4	**AO3 – 4 marks** 1 x 1 mark for a valid/appropriate hypothesis / question / issue. 3 x 1 (DEV) marks for justification with credit per point using evidence from the resource or practical considerations The justification must make use of the resource to explain why the question chosen would be suitable for this location/using this data. The locations people visit in Barcelona depend on whether they are a tourist or a local (✓). The figure shows that tourists and locals tend to go to different places (DEV). Tourist attractions such as Camp Nou are tourist hotspots (DEV). Locals can be found in a wider geographical areas (DEV).
		(ii)	**State <u>two</u> benefits of using crowd-sourced data for the investigation suggested in (a)(i).** Large amounts / wide range of data (✓) Collect data in a short time frame/quickly (✓) High participation leads to more accurate data (✓) Allows data to be collected from a wide range of places simultaneously (✓) Cheaper than collecting all data by the researcher (✓) Could provide data not normally accessible to the researcher (✓) Removes researcher bias (✓) Allows you to see change over time/you can compare your data to previous years (✓)	2	**AO3 – 2 marks** 2 x 1 marks for a valid benefit. Answer will depend on the answer given in (a)(i). Any reasonable type of crowd-sourced data should be credited.

Question			Answer	Marks	Guidance
		(iii)	**Explain <u>two</u> ethical implications you would need to consider when using crowd-sourced data for the investigation suggested in (a)(i).** **Level 3 (5–6 marks)** Demonstrates a **thorough** understanding of the ethical implications of using crowd-sourced data in order to explain its suitability and relevance to the investigation. **Level 2 (3–4 marks)** Demonstrates a **reasonable** understanding of the ethical implications of using crowd-sourced data in order to explain its suitability and relevance to the investigation. **Level 1 (1–2 marks)** Demonstrates a **basic** understanding of the ethical implications of using crowd-sourced data in order to explain its suitability and relevance to the investigation. **0 marks** No response worthy of credit	6	**AO3 – 6 marks** This is a question linked to the investigation stated in (a)(i) so it should demonstrate an appropriate ethical consideration linked to the use of crowd-sourced data. • If collecting data involved taking photographs in environmentally sensitive locations on the shoreline, it could impact up on the environment that was the subject of study, such as trampling of vegetation or encouraging people to enter bio-sensitive areas. • Crowd-sourced data requires the participation of lots of untrained people who may not be aware of the possible ethical implications of collecting data in sensitive areas, so the research must be designed to ensure that data-collectors are not put at risk. • People in the photographs taken will not necessarily give their consent to the images being used, or to participate in the research, therefore there must be sensitivity to how the images are used.
	(b)		**With reference to a fieldwork investigation you have carried out, evaluate the sampling strategy used.** **Level 4 (10–12 marks)** Demonstrates a **comprehensive** evaluation as to the extent to which sampling was an important and successful process relating directly to the fieldwork investigation carried out.	12	**AO3 – 12 marks** An evaluation of any sampling techniques in the investigation with a clear reference back to the question or issue from the fieldwork investigation carried out by the candidate. This should include an explanation of any sampling technique used and the justification for using it. The evaluation should consider the extent to which the sample was representative of the population from which it was drawn and how this influenced the conclusions that were able to be drawn.

Question			Answer	Marks	Guidance
			This will be shown by including well-developed ideas about the fieldwork investigation and clear evaluation of the part that sampling played in it. **Level 3 (7–9 marks)** Demonstrates a **thorough** evaluation as to the extent to which sampling was an important and successful process relating directly to the fieldwork investigation carried out. This will be shown: **either** by including well-developed ideas about the fieldwork investigation and developed evaluation of the part that sampling played in it; **or** by including well-developed evaluation of the part that sampling played in it and developed ideas about the fieldwork investigation. **Level 2 (4–6 marks)** Demonstrates a **reasonable** evaluation as to the extent to which sampling was an important and successful process relating directly to the fieldwork investigation carried out. This will be shown: **either** by including developed ideas about the fieldwork investigation and simple evaluation of the part that sampling played in it; **or** by including developed evaluation of the part that sampling played in it and simple ideas about the fieldwork investigation. **Level 1 (1–3 marks)**		This should enable candidates to demonstrate knowledge and understanding of how to undertake sampling appropriate to the investigation of core human and physical processes and to demonstrate knowledge and understanding of implementing chosen sampling techniques to collect data/information of good quality that is relevant to the topic under investigation. Answers may also include explanation of: • sampling allows researchers to draw valid conclusions about a larger population without having to survey the entire population. • size of sample is a significant consideration • may be spatial / non-spatial • can include random / stratified / systematic • Random sampling – using a random number generator to identify subjects for further investigation • Systematic sampling – using a fixed number interval to identify subjects for further investigation • Stratified sampling – using sub-groups to pre-identify subjects for further investigation using random or systematic sampling. • Point sampling – using a formula to identify areas on a map to conduct data collection • Areal Sampling – using quadrats to identify areas to conduct data collection • Line sampling – using a transect (on a map or on site) to collect data along a path. • Pragmatic – adjustments made to the strategy chosen due to issues such as accessibility, land ownership, safety issues and achieving the required sample size. • Opportunistic sampling.

Question			Answer	Marks	Guidance
			Demonstrates a **basic** evaluation as to the extent to which sampling was an important and successful process relating directly to the fieldwork investigation carried out. This will be shown by including simple ideas about the fieldwork investigation and the part sampling played. **0 marks** No response worthy of credit.		If investigation did not include sampling of any kind, candidates would be expected to explain why it was not used and assert that sampling was therefore not an important part of the process. This could also be shown as an evaluation as to how sampling could have strengthened the investigation. Candidates may discuss improvements to their sampling strategy or alternatives they may select in the future as part of their evaluation.

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