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# **GCSE MARKING SCHEME**

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**SUMMER 2022**

**GEOGRAPHY SPECIFICATION B  
COMPONENT 1  
C112U10-1**

## **INTRODUCTION**

This marking scheme was used by WJEC for the 2022 examination. It was finalised after detailed discussion at examiners' conferences by all the examiners involved in the assessment. The conference was held shortly after the paper was taken so that reference could be made to the full range of candidates' responses, with photocopied scripts forming the basis of discussion. The aim of the conference was to ensure that the marking scheme was interpreted and applied in the same way by all examiners.

It is hoped that this information will be of assistance to centres but it is recognised at the same time that, without the benefit of participation in the examiners' conference, teachers may have different views on certain matters of detail or interpretation.

WJEC regrets that it cannot enter into any discussion or correspondence about this marking scheme.

# GCSE GEOGRAPHY B – COMPONENT 1

## SUMMER 2022 MARK SCHEME

### Instructions for examiners of GCSE Geography when applying the marking scheme

#### 1. Positive marking

It should be remembered that learners are writing under examination conditions and credit should be given for what the learner writes, rather than adopting the approach of penalising him/her for any omissions. It should be possible for a very good response to achieve full marks and a very poor one to achieve zero marks. Marks should not be deducted for a less than perfect answer if it satisfies the criteria of the mark scheme.

GCSE Geography marking schemes are presented in a common format as shown below:

This box contains the sub-question		The columns to the right indicate the assessment objective(s) targeted by the question and its mark tariff.					
3 (a) (i) Describe the location of the island of Lefkada.		AO1	AO2.1	AO2.2	AO3	AO4	Total
						2	2
Credit two simple statements based on map evidence. Credit accurate use of compass points max 1 Credit accurate use of scale line max 1	In western Greece (1) In Ionian Sea (1) north of Cephalonia (1) 275km (+/-10) from Athens (1) 280km (+/-10) from Thessaloniki (1)						
This box contains the rationale i.e. it explains the principles that must be applied when marking each sub-question. The examiner must apply this rationale when applying the marking scheme to the response.		This box contains the candidates' expected responses for point-based marking. For some sub-questions, those with a closed question, this box will indicate the only response that is acceptable. For more open ended sub-questions this box will illustrate a number of likely responses that are credit worthy. It may be that this list will be extended at the examiner's conference after actual scripts have been read. For banded mark schemes this box contains indicative content. For further details see below under Banded mark schemes Stage 2.					

#### 2. Tick marking

Low tariff questions should be marked using a points-based system. Each credit worthy response should be ticked in red pen. The number of ticks must equal the mark awarded for the sub-question. The mark scheme should be applied precisely using the expected outcomes box as a guide to the responses that are acceptable. Do **not** use crosses to indicate answers that are incorrect. If the candidate has not attempted the question, then the examiner should enter a dash (-) or use the not attempted icon on E-marker.

### 3. Banded mark schemes

Banded mark schemes are divided so that each band has a relevant descriptor. The descriptor for the band provides a description of the performance level for that band. Each band contains marks. Examiners should first read and annotate a learner's answer to pick out the evidence that is being assessed in that question. **Do not use ticks** on the candidate's response. Once the annotation is complete, the mark scheme can be applied. This is done as a two-stage process.

#### Stage 1 – Deciding on the band

When deciding on a band, the answer should be viewed holistically. Beginning at the lowest band, examiners should look at the learner's answer and check whether it matches the descriptor for that band. Examiners should look at the descriptor for that band and see if it matches the qualities shown in the learner's answer. If the descriptor at the lowest band is satisfied, examiners should move up to the next band and repeat this process for each band until the descriptor matches the answer.

If an answer covers different aspects of different bands within the mark scheme, a 'best fit' approach should be adopted to decide on the band and then the learner's response should be used to decide on the mark within the band. For instance, if a response is mainly in band 2 but with a limited amount of band 3 content, the answer would be placed in band 2, but the mark awarded would be close to the top of band 2 as a result of the band 3 content.

Examiners should not seek to mark candidates down as a result of small omissions in minor areas of an answer.

#### Stage 2 – Deciding on the mark

Once the band has been decided, examiners can then assign a mark. During standardising (marking conference), detailed advice from the Principal Examiner on the qualities of each mark band will be given. Examiners will then receive examples of answers in each mark band that have been awarded a mark by the Principal Examiner. Examiners should mark the examples and compare their marks with those of the Principal Examiner.

When marking, examiners can use these examples to decide whether a learner's response is of a superior, inferior or comparable standard to the example. Examiners are reminded of the need to revisit the answer as they apply the mark scheme in order to confirm that the band and the mark allocated is appropriate to the response provided.

Indicative content is also provided for banded mark schemes. Indicative content is not exhaustive, and any other valid points must be credited. In order to reach the highest bands of the mark scheme a learner need not cover all of the points mentioned in the indicative content but must meet the requirements of the highest mark band. Where a response is not creditworthy, that is contains nothing of any significance to the mark scheme, or where no response has been provided, no marks should be awarded.

### Theme 1, Question 1

Q1. (a) (i) International migration is one feature of globalisation. Tick (✓) one box below to give the correct definition of the term 'international migrant'.	AO1	AO2.1	AO2.2	AO3	AO4	SPaG	Total
	1						1
Credit this response only.	Someone who moves from one country to another country						

(ii) Study Fig 1.1 Circle the correct answer in each of the following sentences.	AO1	AO2.1	AO2.2	AO3	AO4	SPaG	Total
					4		4
Credit these responses only. One mark for each correct response.	98 million Slightly increased males aged 70-74 1.7%						

(iii) Give FOUR push factors which can lead to international migration	AO1	AO2.1	AO2.2	AO3	AO4	SPaG	Total
	4						4
Credit one mark for each correct response. 1+1+1+1 Do not credit pull factors.	<ul style="list-style-type: none"> <li>- No jobs/only low paid jobs available</li> <li>- Lack of access to schools/education</li> <li>- Lack of health care/access to doctors.</li> <li>- Poor standard of housing</li> <li>- Lack of access to electricity</li> <li>- Lack of access to internet</li> <li>- War</li> <li>- Persecution</li> <li>- Failure of crops/famine</li> <li>- Natural disasters</li> <li>- Climate change</li> <li>- Overpopulation</li> </ul>						

(iv) Give TWO reasons why international migration can have social consequences.		AO1	AO2.1	AO2.2	AO3	AO4	SPaG	Total
				4				4
Credit appropriate reasons with up to 2 additional marks with an elaboration. (1+1)(1+1) (1+1+1)+1	<p>May be language barriers (1) which can have an impact on integration (1) which could exclude them from community activities (1)</p> <p>May leave family behind (1) which could cause mental stress (1)</p> <p>Some people may say migrants put a strain on local resources (1) which can lead to conflict/abuse/discrimination. (1)</p> <p>May result in multicultural communities (1) which broadens cultural opportunities such as food and restaurants. (1)</p> <p>Religious differences (1) can lead to greater demand for faith schools/places of worship (1)</p> <p>May reduce pressure on resources in source country (1) such as food or water (1)</p>							

(b) (i) Many UK cities have zones where there is a mix of different ethnic groups of people. Tick the box which gives the correct term for the zone of a city where there is a mix of different ethnic groups.		AO1	AO2.1	AO2.2	AO3	AO4	SPaG	Total
		1						1
Credit this response only.	Multicultural							

(ii) Suggest TWO weaknesses of this diagram to show the information.		AO1	AO2.1	AO2.2	AO3	AO4	SPaG	Total
						2		2
Credit two simple statements. 1+1	<ul style="list-style-type: none"> <li>- Does not show pattern in whole city</li> <li>- Choice of transect line could be biased</li> <li>- May miss important changes/differences</li> <li>- Does not show individual groups</li> <li>- Scale difficult to use</li> </ul>							

(iii) A student used data on languages spoken in Bristol (other than English) to produce this word cloud (Figure 1.3). The size of the word is proportional to the number of speakers of that language. Give TWO other appropriate techniques to display this information.		AO1	AO2.1	AO2.2	AO3	AO4	SPaG	<b>Total</b>
						2		<b>2</b>
Credit two appropriate techniques 1+1	<ul style="list-style-type: none"> <li>- Bar chart</li> <li>- Proportional bars/circles</li> <li>- Pie chart</li> <li>- Pictogram</li> </ul>							

(c) Emergency aid is sometimes needed when a disaster occurs. Countries that send aid are called 'donor countries'. (i) Describe TWO advantages for a donor country when short term emergency aid is given.		AO1	AO2.1	AO2.2	AO3	AO4	SPaG	<b>Total</b>
		2						<b>2</b>
Credit two simple statements. 1+1	<ul style="list-style-type: none"> <li>- the country is perceived as being humanitarian</li> <li>- it improves international reputation</li> <li>- good publicity for the government of that country</li> <li>- may help develop further economic links</li> </ul>							

(ii) Explain why short-term emergency aid was needed in an LIC (Low Income Country) you have studied.		AO1	AO2.1	AO2.2	AO3	AO4	SPaG	<b>Total</b>
			4					<b>4</b>
Use a banded mark scheme. Work upwards from the lowest band.		<p>Answers are likely to relate to extreme events such as earthquakes, hurricanes, floods.</p> <p>Short term aid could include emergency shelters, food and water supplies, search and rescue teams, medical supplies and expertise.</p>						
<b>Band</b>	<b>Mark</b>	<b>Band descriptor</b>						
<b>2</b>	3-4	Clear understanding of the need for emergency aid through some elaboration with specific reference to an event that required short term aid.						
<b>1</b>	1-2	Simple valid statement (s) that may be generic in nature. May lack elaboration.						
	0	Award 0 marks if answer is incorrect or wholly irrelevant.						

<p>(d) Study Fig 1.4 which shows the Queen Elizabeth Olympic Park in London. This was developed for the 2012 Olympic Games. Analyse the impacts of holding major sporting events in the UK such as the London 2012 Olympic Games</p>			AO1	AO2.1	AO2.2	AO3	AO4	SPaG	Total																		
						8		4	12																		
<p>Use a banded mark scheme. Work upwards from the lowest band.</p> <table border="1"> <thead> <tr> <th>Band</th> <th>Mark</th> <th>Band descriptor</th> </tr> </thead> <tbody> <tr> <td>4</td> <td>7-8</td> <td> <p>Exceptional application of knowledge and understanding.</p> <ul style="list-style-type: none"> <li>Comprehensive chain(s) of reasoning provide sophisticated response.</li> <li>Balanced and coherent appraisal draws together wider understanding of a range of impacts</li> <li>Clear evidence of analysis.</li> </ul> </td> </tr> <tr> <td>3</td> <td>5-6</td> <td> <p>Thorough application of knowledge and understanding.</p> <ul style="list-style-type: none"> <li>Relevant chain(s) of reasoning provide detailed/elaborated analysis</li> <li>Wider geographical understanding of impacts but may not be balanced.</li> </ul> </td> </tr> <tr> <td>2</td> <td>3-4</td> <td> <p>Sound application of knowledge and understanding.</p> <ul style="list-style-type: none"> <li>Some connections provide valid but limited analysis</li> <li>Limited appraisal from wider geographical understanding to support points</li> </ul> </td> </tr> <tr> <td>1</td> <td>1-2</td> <td> <p>Some basic application of knowledge and understanding.</p> <ul style="list-style-type: none"> <li>Limited and weak appraisal of impacts</li> <li>May be generic points with little evidence of analysis.</li> </ul> </td> </tr> <tr> <td></td> <td>0</td> <td>Award 0 marks if answer is incorrect or wholly irrelevant.</td> </tr> </tbody> </table>			Band	Mark	Band descriptor	4	7-8	<p>Exceptional application of knowledge and understanding.</p> <ul style="list-style-type: none"> <li>Comprehensive chain(s) of reasoning provide sophisticated response.</li> <li>Balanced and coherent appraisal draws together wider understanding of a range of impacts</li> <li>Clear evidence of analysis.</li> </ul>	3	5-6	<p>Thorough application of knowledge and understanding.</p> <ul style="list-style-type: none"> <li>Relevant chain(s) of reasoning provide detailed/elaborated analysis</li> <li>Wider geographical understanding of impacts but may not be balanced.</li> </ul>	2	3-4	<p>Sound application of knowledge and understanding.</p> <ul style="list-style-type: none"> <li>Some connections provide valid but limited analysis</li> <li>Limited appraisal from wider geographical understanding to support points</li> </ul>	1	1-2	<p>Some basic application of knowledge and understanding.</p> <ul style="list-style-type: none"> <li>Limited and weak appraisal of impacts</li> <li>May be generic points with little evidence of analysis.</li> </ul>		0	Award 0 marks if answer is incorrect or wholly irrelevant.	<p>This question requires candidates to synthesise links between different areas of knowledge and understanding and apply this to analyse impacts.</p> <p>They may make reference to other major sporting events in the UK.</p> <p>Details will depend on examples chosen, and may refer to:</p> <ul style="list-style-type: none"> <li>positive and negative impacts</li> <li>short and long term</li> <li>different scales or stakeholders</li> <li>social, economic or environmental</li> </ul> <p><u>Possible positive impacts</u></p> <ul style="list-style-type: none"> <li>income from tourism</li> <li>long term investment in area</li> <li>legacy benefits such as world class facilities for future events</li> <li>raises the profile of the city/location through media coverage</li> <li>local people benefit from access to sports facilities which may improve health</li> <li>creates jobs in construction and event management</li> <li>environment may be improved and greater access to green space</li> <li>improved community spirit</li> <li>skills learnt by volunteers</li> </ul> <p><u>Possible negative impacts</u></p> <ul style="list-style-type: none"> <li>cost of investment</li> <li>higher taxes for locals to pay for facilities and ongoing maintenance</li> <li>security concerns over holding such high-profile events</li> <li>impacts on locals during event such as noise, parking, litter</li> <li>very few jobs for local people once event is over</li> <li>homes such as in Olympic Park may not be affordable nor meet local needs</li> </ul>						
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After awarding a level and mark for the geographical response, apply the performance descriptors for spelling, punctuation and the accurate use of grammar (SPaG) and specialist terms that follow.

<b>Band</b>	<b>Marks</b>	<b>Performance descriptions</b>
<i>High</i>	4	<ul style="list-style-type: none"> <li>• Learners spell and punctuate with consistent accuracy</li> <li>• Learners use rules of grammar with effective control of meaning overall</li> <li>• Learners use a wide range of specialist terms as appropriate</li> </ul>
<i>Intermediate</i>	2–3	<ul style="list-style-type: none"> <li>• Learners spell and punctuate with considerable accuracy</li> <li>• Learners use rules of grammar with general control of meaning overall</li> <li>• Learners use a good range of specialist terms as appropriate</li> </ul>
<i>Threshold</i>	1	<ul style="list-style-type: none"> <li>• Learners spell and punctuate with reasonable accuracy</li> <li>• Learners use rules of grammar with some control of meaning and any errors do not significantly hinder meaning overall</li> <li>• Learners use a limited range of specialist terms as appropriate</li> </ul>
	0	<ul style="list-style-type: none"> <li>• The learner writes nothing</li> <li>• The learner’s response does not relate to the question</li> <li>• The learner’s achievement in SPaG does not reach the threshold performance level, for example errors in spelling, punctuation and grammar severely hinder meaning</li> </ul>

**END OF QUESTION 1**

## Theme 2: Changing Environments

Q2 (a) (i) Study Figure 2.1. Use the information in Fig 2.1 to complete the sentences.		AO1	AO2.1	AO2.2	AO3	AO4	SPaG	<b>Total</b>
						3		3
Credit these responses only One mark for each correct response	3°C London 15°C							
(ii) Study Figure 2.2. What is the <b>median</b> value of this rainfall data.		AO1	AO2.1	AO2.2	AO3	AO4	SPaG	<b>Total</b>
						1		1
Credit this response only	56mm							
(iii) Calculate the range of the rainfall data in Fig 2.2. Show your working in the box.		AO1	AO2.1	AO2.2	AO3	AO4	SPaG	<b>Total</b>
						2		2
Credit one mark for correct working Allow max 1 if correct but no working shown.	Range 98-26    72mm (1)        (1)							
(iv) Give <b>two</b> reasons why the west of the UK is wetter than the east.		AO1	AO2.1	AO2.2	AO3	AO4	SPaG	<b>Total</b>
				4				4
Credit two simple reasons each with an elaboration (1+1) (1+1) (1+1+1)+1	<ul style="list-style-type: none"> <li>- prevailing winds come mostly from the west/south west (1) which pick up moisture as they cross the sea/Atlantic (1)</li> <li>- there is high land in the west/Lake District/Pennines (1) so air rises over them then cools and condenses (1) producing relief rainfall (1)</li> <li>- as air descends from higher land/to lower land in the east (1) it warms (1) and holds more water (1)</li> </ul>							
(v) The UK weather is affected by many factors including air pressure. Circle the correct word in the sentences.		AO1	AO2.1	AO2.2	AO3	AO4	SPaG	<b>Total</b>
		2						2
Credit these responses only	Areas of high pressure are known as <u>anticyclones</u> . (1) Areas of low pressure are known as <u>depressions</u> . (1)							

(b) Choose one intense low pressure event outside the UK you have studied. Describe the social and economic impacts of this event.			AO1	AO2.1	AO2.2	AO3	AO4	SPaG	<b>Total</b>															
			6						<b>6</b>															
Use a banded mark scheme. Work upwards from the lowest band.			Likely to be a tropical storm event such as a hurricane or cyclone. Credit statements specific to the event.																					
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	0	Award 0 marks if answer is incorrect or wholly irrelevant.																						
Award 0 marks if response is for an event in the UK or a high-pressure event.																								

(c) (i) Australia regularly experiences drought conditions. Study Fig 2.3 Tick (✓) the <b>two</b> correct statements in the table which describe the rainfall patterns shown in Fig 2.3			AO1	AO2.1	AO2.2	AO3	AO4	SPaG	<b>Total</b>
							2		<b>2</b>
Credit 1 mark for each correct response.			Western Australia had the largest area of lowest average rainfall (1) The north coast of Australia had more rain above average than the south coast (1)						

<p>(ii) Droughts are becoming more frequent in many parts of the world. Explain why <b>two</b> groups of people may be negatively affected by drought.</p>	AO1	AO2.1	AO2.2	AO3	AO4	SPaG	<b>Total</b>
			4				<b>4</b>
<p>Credit two simple valid reasons each with an elaboration or one with further elaboration and one simple reason. (1+1) (1+1) (1+1+1) +1</p> <p>Max 3 if two different groups cannot be identified.</p>	<p>Possible responses might include:</p> <p><u>Farmers</u> shortage of water to irrigate crops (1) so reduced yield (1) so less income (1) loss of crops/animals through wildfires (1) less income may have to change type of crop grown in response to climate changes (1) results in increased costs (1)</p> <p><u>Homeowners</u> Hosepipe bans (1) shortage of water for domestic use (1) May have to get water by tanker (1) Loss/damage to properties (1) due to wildfires or cracks caused by subsidence (1)</p> <p><u>Government</u> Cost of supplying water/compensation for farmers and homeowners (1) money could be spent elsewhere (1) Shortage of food (1) means more has to be imported (1) at increased costs (1) Need to plan for the future (1) such as investing in more water storage (1)</p>						

## OPTIONAL QUESTIONS

(d) Study Figure 2.4 Examples of soft and hard engineering methods of coastal protection. Is hard or soft engineering a more sustainable way of managing UK coastlines? Justify your views.			AO1	AO2.1	AO2.2	AO3	AO4	SPaG	<b>Total</b>
						8			<b>8</b>
Use a banded mark scheme. Work upwards from the lowest band.			This question requires candidates to synthesise links between different areas of knowledge and understanding and apply this to come to justify the views expressed. Candidates could argue for either soft or hard engineering or suggest a combination of both is the most sustainable option. They could make reference to examples of particular SMP's they have studied. The emphasis should be on sustainability not just a description of what the different techniques are, for example:  <u>Arguments for hard engineering</u> <ol style="list-style-type: none"> <li>1. initial very high costs but will last a long time</li> <li>2. local businesses/ tourist facilities can plan for the future as there is a lower risk factor</li> <li>3. some methods such as groynes or offshore bars are less obtrusive and therefore more acceptable and visitors to access beaches is maintained</li> </ol> <u>Argument for soft engineering</u> <ul style="list-style-type: none"> <li>- a more environmentally friendly approach so habitats are more protected</li> <li>- new habitats may be created such as by sand dune management or salt marsh creation</li> <li>- beach nourishment protects from erosion without detracting from the natural appearance and may not put off visitors so that the local economy benefits</li> <li>- because soft engineering works with nature rather than against it</li> <li>- low technology, low-cost solutions</li> </ul> There should be clear evidence of justification of an expression of a view. Just saying 'I think hard/soft engineering is best' is not adequate as evidence of justification.						
<b>Band</b>	<b>Mark</b>	<b>Band descriptor</b>							
<b>4</b>	7-8	Exceptional application of knowledge and understanding of sustainability. <ul style="list-style-type: none"> <li>• Comprehensive chain(s) of reasoning provide sophisticated response.</li> <li>• Balanced and coherent appraisal draws together wider understanding of arguments for and against.</li> <li>• Clear evidence of justification.</li> </ul>							
<b>3</b>	5-6	Thorough application of knowledge and understanding of sustainability. <ul style="list-style-type: none"> <li>• Relevant chain(s) of reasoning provide detailed/elaborated justification.</li> <li>• Wider geographical understanding of the arguments for and against but may not be balanced.</li> </ul>							
<b>2</b>	3-4	Sound application of knowledge and understanding of sustainability. <ul style="list-style-type: none"> <li>• Some connections provide valid but limited justification.</li> <li>• Limited appraisal from wider geographical understanding to support points</li> <li>• May refer to arguments <b>either</b> for or against.</li> </ul>							
<b>1</b>	1-2	Some basic application of knowledge and understanding. <ul style="list-style-type: none"> <li>• Limited and weak appraisal of the arguments.</li> <li>• May be generic points with little evidence of justification.</li> </ul>							
	0	Award 0 marks if answer is incorrect or wholly irrelevant.							

<p>(e) Study Fig 2.5 Examples of soft and hard engineering methods of river flood management. Is hard or soft engineering a more sustainable way of managing UK rivers? Justify your views.</p>			AO1	AO2.1	AO2.2	AO3	AO4	SPaG	Total																		
						8			8																		
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END OF QUESTION 2

## OPTIONAL QUESTIONS - Theme 3: Environmental Challenges

### Question 3: How ecosystems function, Ecosystems under threat

	AO1	AO2.1	AO2.2	AO3	AO4	SPaG	Total
Q 3 (a) (i) Ecosystems contain many different components. Complete the table below by adding the correct letter from Fig 3.1.	2						<b>2</b>
Credit one mark for each correct response	E Biotic – the parts of an ecosystem which are living things A Abiotic – the parts of an ecosystem which are non-living things						
(ii) Describe the role of producers in an ecosystem.	2						<b>2</b>
Credit two simple statements or one statement with elaboration 1+1 (1+1)	<ul style="list-style-type: none"> <li>- they supply energy to primary consumers (1)</li> <li>- they provide nutrients for consumers (1)</li> <li>- they turn energy from the sun into food (1) by the process of photosynthesis (1)</li> <li>- they create food from inorganic matter (1)</li> </ul>						
(iii) Explain why a reduction in the number of secondary consumers would have an impact on a food web.	4						<b>4</b>
Credit four reasons or reason(s) with elaboration 1+1+1+1 (1+1) (1+1) (1+1+1+1) (1+1+1) +1	Tertiary consumers would have less food (1) so numbers may reduce (1) Tertiary consumers would have to look for food lower down the food chain (1) so numbers of primary/secondary consumers would decrease (1) An increase in producers because less primary consumers to eat them (1)  Primary consumers are not eaten by secondary consumers (1) so numbers may increase (1) It affects the trophic cascade (1)						

(b) (i) Sand dunes are an example of a small-scale ecosystem. Study Fig 3.2 Transect across a sand dune ecosystem. Describe changes in vegetation with distance from the sea. You should use figures in your answer.		AO1	AO2.1	AO2.2	AO3	AO4	SPaG	<b>Total</b>
						4		<b>4</b>
Credit four simple statements  Max 3 if no figures used.	<ul style="list-style-type: none"> <li>- vegetation <b>type</b> changes with distance from the sea (1)</li> <li>- vegetation gets taller with distance from the sea (1)</li> <li>- vegetation does not start until 100m from the sea (1)</li> <li>- no vegetation near sea (1)</li> <li>- couch grass and rocket on dunes at 100-200m (1)</li> <li>- marram grass at 200-300m (1)</li> <li>- gorse at 300-400m (1)</li> <li>- grass, heather and sedge at 500m (1)</li> <li>- woodland at 550-600m (1)</li> </ul>							

(ii) Study Fig 3.3. Fig 3.3 Changes in the amount of marram grass along a sand dune transect. What technique has been used to show the data in Fig 3.2?		AO1	AO2.1	AO2.2	AO3	AO4	SPaG	<b>Total</b>
						1		<b>1</b>
Credit this response only	Kite diagram (1)							

(iii) Study Fig 3.4 The nutrient cycle in a sand dune ecosystem. Complete the sentences using the information in Fig 3.4		AO1	AO2.1	AO2.2	AO3	AO4	SPaG	<b>Total</b>
						3		<b>3</b>
Credit these responses only	Biomass (1) Soil (1) to Biomass (1)							



(iv) Explain why groups of people have different views about managing a small-scale UK ecosystem you have studied.	AO1	AO2.1	AO2.2	AO3	AO4	SPaG	Total
			4				4
<p>Credit four reasons or reason(s) with elaboration            (1+1) (1+1)            (1+1+1)+1            1+1+1+1</p> <p>Max 3 if only one group.</p>	<p>Responses may refer to particular small-scale ecosystems such as sand dunes, parks, ponds, small areas of woodland.            Views could be either positive or negative.</p> <ul style="list-style-type: none"> <li>- <b>local people</b> want to retain open space (1) which is important for their health (1)</li> <li>- <b>environmentalists</b> consider it important to preserve natural environments (1) so biodiversity can be maintained (1)</li> <li>- they may also be concerned about the overuse of some areas (1) which leads to damage to a fragile ecosystem. (1)</li> <li>- <b>planners</b> consider provision of more home is greater than the need to preserve the countryside (1) new building may be on greenfield sites which destroy an existing ecosystem (1)</li> <li>- <b>tourists</b> may have restricted/greater access (1)</li> </ul>						

(c) Give four human activities that have damaged hot semi-arid grasslands.	AO1	AO2.1	AO2.2	AO3	AO4	SPaG	Total
	4						4
Credit four simple statements.	<p>Cutting down/burning/removing trees (1)            Use of heavy machinery compacts ground (1)            Tourists can trample the ground (1)            Overgrazing (1)            Burning fossil fuels (1)            Over extraction of water (1)            Over cultivation (1)</p>						

<p>(d) Study Fig 3.5 The Camargue wetland ecosystem in southern France.          'The economic benefits are more important than environmental costs when managing ecosystems.' How far do you agree with this statement? You may use the resources in Fig 3.5 and/or examples you have studied to support your answer.</p>			AO1	AO2.1	AO2.2	AO3	AO4	SPaG	Total
						8			8
<p>Use a banded mark scheme. Work upwards from the lowest band.</p>			<p>This question requires candidates to synthesise links between different areas of knowledge and understanding and apply this to come to decisions about the view expressed.</p> <p><u>Economic Benefits</u></p> <ul style="list-style-type: none"> <li>- increasing population means need for more food production. Could refer to Camargue rice fields in Fig 3.4 or other examples such as cutting down trees to grow crops or increased fishing.</li> <li>- need to produce more electricity and land for housing.</li> <li>- tourism is vital to economies for employment and local/national government revenue. Could refer to examples from coral reefs or safaris in hot semi-arid grasslands.</li> </ul> <p><u>Environmental Costs</u></p> <ul style="list-style-type: none"> <li>- draining land to increase yields or changes in farming practices such as greater use of fertilisers and pesticides and mechanisation has impacts on loss of habitat and rare species of plant and wildlife.</li> <li>- climate change leads to higher temperatures and reduced rainfall which has impacts on natural habitats. Could discuss effect of higher evaporation on Camargue.</li> <li>- greater waste production means more landfill sites causing possible soil pollution.</li> </ul>						
<b>Band</b>	<b>Mark</b>	<b>Band descriptor</b>							
4	7-8	<p>Exceptional application of knowledge and understanding.</p> <ul style="list-style-type: none"> <li>• Comprehensive chain(s) of reasoning provide sophisticated response.</li> <li>• Balanced and coherent appraisal draws together wider understanding of <b>both</b> economic benefits and environmental costs to justify decision.</li> </ul>							
3	5-6	<p>Thorough application of knowledge and understanding.</p> <ul style="list-style-type: none"> <li>• Relevant chain(s) of reasoning provide detailed/elaborated analysis.</li> <li>• Wider geographical understanding of <b>both</b> economic benefits and environmental costs to support decision. May lack balance.</li> </ul>							
2	3-4	<p>Sound application of knowledge and understanding.</p> <ul style="list-style-type: none"> <li>• Some connections provide valid but limited analysis.</li> <li>• Limited appraisal from wider geographical understanding to support points</li> <li>• May refer to <b>either</b> economic benefits <b>or</b> environmental costs.</li> </ul>							
1	1-2	<p>Some basic application of knowledge and understanding.</p> <ul style="list-style-type: none"> <li>• Basic level of meaning ascribed to the information/issue.</li> <li>• Limited and weak appraisal.</li> </ul>							
	0	Award 0 marks if answer is incorrect or wholly irrelevant.							

END OF QUESTION 3

### Question 4: Water resources and management, Desertification

Q4 (a)(i) Water is a vital human resource. Tick (✓) the four correct statements about the global water footprint.		AO1	AO2.1	AO2.2	AO3	AO4	SPaG	<b>Total</b>
						4		<b>4</b>
Credit one mark for each correct response.	<b>Per person...</b>							<b>Tick (✓)</b>
	South America has a higher water footprint than North America							
	there are no countries in Australasia which are below the global average water footprint							✓
	countries in Southern Africa have a lower water footprint than those in Northern Africa							✓
	North America has a higher water footprint than South America							✓
	there are no countries in Europe with a below global average water footprint							
	countries with the lowest water footprint are only found south of the Equator							
	there are no countries with the highest water footprint south of the Tropic of Capricorn							✓

(ii) Explain why there is an increasing demand for water in some places.		AO1	AO2.1	AO2.2	AO3	AO4	SPaG	<b>Total</b>
				4				<b>4</b>
Credit reason(s) with elaboration. (1+1+1+1) (1+1+1)+1 (1+1)(1+1)	<ul style="list-style-type: none"> <li>- improved wealth leads to better sanitation (1), increasing domestic use in houses (1) such as showers, baths (1)</li> <li>- improvements in agriculture (1) may require irrigation (1)</li> <li>- increased use to generate power (1)</li> <li>- water needed in manufacturing processes (1) such as steel making (1)</li> <li>- wealthier have bigger gardens (1) which need watering (1)</li> <li>- more golf courses (1) so water used to maintain greens (1)</li> <li>- facilities for tourism (1) require more water such as swimming pools in hotels (1)</li> <li>- increasing population (1) means more reservoirs needed (1) to store water (1)</li> </ul>							

(iii) Study Figure 4.2. Suggest two appropriate techniques from the table below which could be used to show the information in Figure 4.2.		AO1	AO2.1	AO2.2	AO3	AO4	SPaG	<b>Total</b>
						2		<b>2</b>
Credit these responses only.	Bar graph Pictogram							

(iv) Give <b>two</b> reasons why a line graph would <b>not</b> be an appropriate technique to show this information.	AO1	AO2.1	AO2.2	AO3	AO4	SPaG	<b>Total</b>
					2		<b>2</b>
Credit one mark for each correct response.	<ul style="list-style-type: none"> <li>- No relationship between the items</li> <li>- Does not contain continuous data</li> <li>- Data does not show changes over time</li> <li>- Would not make it easy to compare items</li> </ul>						

(b) Describe one advantage and one disadvantage of transferring water between two countries.	AO1	AO2.1	AO2.2	AO3	AO4	SPaG	<b>Total</b>
	4						<b>4</b>
Credit one advantage with elaboration and one disadvantage with elaboration. (1+1)(1+1) (1+1+1)+1	<p><u>Possible advantages</u></p> <ul style="list-style-type: none"> <li>- selling water generates income (1) which could be used to improve health care/education (1)</li> <li>- large scale projects such as dams may provide electricity as well as water (1) which helps economic development (1)</li> <li>- may provide a more reliable water supply (1) which could be used for both domestic and industrial use (1)</li> <li>- can provide water for crop irrigation (1) so yields improve (1)</li> </ul> <p><u>Possible disadvantages</u></p> <ul style="list-style-type: none"> <li>- expensive to build pipelines/dams (1) which can lead to long term debt (1) which reduces further development/investment (1)</li> <li>- land may be lost if areas flooded to create reservoirs (1) and locals may not get adequate compensation or have to move (1)</li> <li>- poorer communities may not benefit (1) and still have limited access to clean water (1)</li> <li>- many schemes need international co-operation (1) which can lead to political disputes (1)</li> </ul>						

(c) (i) Desertification is a growing problem for many countries. Explain why cutting down trees can lead to desertification.	AO1	AO2.1	AO2.2	AO3	AO4	SPaG	<b>Total</b>
			4				<b>4</b>
Credit statements with reasons (1+1+1+1) (1+1+1)+1 (1+1)(1+1)	<ul style="list-style-type: none"> <li>- roots of trees no longer hold the soil together (1)</li> <li>- soil is more exposed (1) therefore more vulnerable to erosion (1)</li> <li>- soil removed (1) so new vegetation cannot grow (1)</li> <li>- less water returned to atmosphere (1) by evapotranspiration (1)</li> <li>- no leaf litter (1) so nutrient cycle broken (1) soil becomes infertile (1)</li> </ul>						

(ii) There are many ways to reduce the impact of desertification. Study Figure 4.3. Complete the table, adding the correct letter from Fig 4.3 next to the statement		AO1	AO2.1	AO2.2	AO3	AO4	SPaG	<b>Total</b>
		4						<b>4</b>
Credit these responses only	C A D B							

(d) Study Fig 4.4 Managing desertification 'The economic benefits are more important than environmental costs when managing ecosystems'. How far do you agree with this statement. You may use the resources in Figure 4.4 and/or examples you have studied to support your answer			AO1	AO2.1	AO2.2	AO3	AO4	SPaG	Total																		
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**END OF QUESTION 4**