

GCSE

Geography B

Unit **B561/01**: Sustainable Decision Making Exercise (Foundation Tier)

General Certificate of Secondary Education

Mark Scheme for June 2016

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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.

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These are the annotations, (including abbreviations), including those used in scoris, which are used when marking

Annotation	Meaning of annotation
✓	Correct point
X	Incorrect point
?	Unclear
^	Omission mark
irrl	Irrelevant material not answering question
dev	Development
L1	Level one
L2	Level two
L3	Level three
{	Left bracket
}	Right bracket
BOD	Benefit of doubt
NBOD	No benefit of doubt

Question			Answer/Indicative content	Mark	Guidance
1	(a)	✓	32%	1	Point marking
	(b)	✓	Norway	1	Point marking
	(c)	✓	Damage to <ul style="list-style-type: none"> • Houses • Roads/Railways/Routes Loss of land/farmland/gardens Lead to expensive repairs Harm coastal businesses Increase spending on sea defences/ put up local taxes Decrease value of property High cost of insurance Flooding Or any valid other way	2	Point marking Only 1 mark for loss of land ideas

Question			Answer/Indicative content	Mark	Guidance
2	(a)	✓	Left to right, Cliff, Arch, Stack	2	Point marking 1 mark for 2 correct (✓✓) 2 marks for 3 correct (✓✓✓)
	(b)	✓ dev	Description of chosen feature: Arch A cave/hole which goes all the way through a headland/cliff NOT ARCH SHAPED Cliff A steep rock face at the edge of the sea Stack Steep, often vertical column of rock in the sea near a coast detached from headland Stump A collapsed/eroded stack Wave cut platform Flat surface at the base of a sea cliff	2	Point marking 1 or 2 marks for descriptive points No development needed but can be credited as expansion of any point made/describes how formed. No landform / wrong landform / landform not on list – can only get one mark for a correct description 1 mark can be given for showing understanding that these features are formed by coastal erosion
	(c)	✓	Any named erosional coastal process with description Attrition Waves smash rocks and pebbles on the shore into each other, and they break and become smoother Hydraulic Action When a wave breaks, the trapped air is compressed which weakens the cliff and causes erosion Abrasion/Corrasion mechanical scraping of a rock surface by friction between rocks and moving particles Solution/Corrosion Acids contained in sea water will dissolve some types of rock such as chalk or limestone.	2	1 mark for process plus 1 mark for description.

Question			Answer/Indicative content	Mark	Guidance									
3	(a) (i)	✓ dev	<p>A. Rock Armour dissipates wave energy, looks natural, allows beach to build up, reduce backwash</p> <p>B. Sea Wall lasts long time, high, stops land being eroded, reflects wave energy,</p> <p>C. Gabions cheaper, quick/easy to install, reduces wave impact on cliffs, allows beach to build up, dissipates wave energy</p>	3	<p>Point marked 1 mark for each reason why it is a good solution A new point may be a development of a previous point</p> <p>Answer must relate to the chosen method</p> <table border="1"> <tr> <td>✓</td> <td>✓</td> <td>✓</td> </tr> <tr> <td>✓</td> <td>dev</td> <td>✓</td> </tr> <tr> <td>✓</td> <td>dev</td> <td>dev</td> </tr> </table>	✓	✓	✓	✓	dev	✓	✓	dev	dev
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3	(a) (ii)	✓	<p>A. Rock Armour looks ugly, restricts access to sea for fishermen/tourists, expensive (rocks from Norway), collects litter</p> <p>B. Sea Wall very expensive to build and maintain, may restrict access to beach, may look out of character, can increase undercutting erosion,</p> <p>C. Gabions needs regular maintenance/replacing, a bit ugly, short term quick fix, stops waves penetrating through, home for rats, can be dangerous/become loose</p>	1	<p>Point marking 1 mark</p>									
3	(b) (i)	✓ dev	<p>D. Revetments Allow sediment to build up behind them, traps sediment, reduces wave energy several metres offshore, helps widen beaches, waves break further out</p> <p>E. Christmas Trees helps bind sand in dunes together/ stabilises dunes, helps maintain existing width of beach, acts as a windbreak, grows dunes/beach, dunes protect inland areas</p> <p>F. Wooden Groynes stops/slows longshore drift, traps sediment, widens beaches, waves break further out</p>	2	<p>Point marked 1 mark for each reason why it prevents erosion A new point may be a development of a previous point</p>									

Question			Answer/Indicative content	Mark	Guidance				
3	(b) (ii)	✓ dev	<ul style="list-style-type: none"> uses natural processes to help the beach protect the cliffs does not build something artificial and costly or out of character blends in with the surrounds more - more cost effective and a longer term solution re-uses wooden material from railways and dismantled buildings rather than brand new wood from forests re-uses Xmas trees rather than building concrete structures or importing rocks from overseas locally sourced materials are used so reducing the carbon footprint of the protection method less CO2 emitted as fewer HGV's used to construct protection method easy for local people to replace/fix without need to call in specialists from further afield Christmas trees have little economic cost cheaper (only for Xmas Trees) 	2	<p>1 mark for each reason OR 1 for reason 1 for development of reason</p> <table border="1"> <tr> <td>✓</td> <td>✓</td> </tr> <tr> <td>✓</td> <td>dev</td> </tr> </table>	✓	✓	✓	dev
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Question			Answer/Indicative content	Mark	Guidance									
4	(a)	✓ dev	<p>Name of any people who would be pleased</p> <p>e.g. Campsite Owner because Stops his land falling in the sea (✓) so he has land to put caravans on (dev) meaning campers still visit (dev) There is still a good beach for holidaymakers (✓) A promenade to walk on (✓) He can be in business for years without worry (✓)</p>	3	<p>No mark for selecting person</p> <table border="1"> <tr> <td>✓</td> <td>✓</td> <td>✓</td> </tr> <tr> <td>✓</td> <td>dev</td> <td>✓</td> </tr> <tr> <td>✓</td> <td>dev</td> <td>dev</td> </tr> </table> <p>Reason or reasons must relate to the named stakeholder</p>	✓	✓	✓	✓	dev	✓	✓	dev	dev
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	(b)	✓ dev	<p>Name of any person who would not be pleased</p> <p>e.g. The Beaminster taxpayer because Higher tax (✓) Lyme Regis some distance away (✓) Wants to have money spent on Beaminster not Lyme Regis (✓) so there are better services in his local town (dev) and so the environment benefits where he lives (dev)</p>	3	<p>No mark for selecting person</p> <table border="1"> <tr> <td>✓</td> <td>✓</td> <td>✓</td> </tr> <tr> <td>✓</td> <td>dev</td> <td>✓</td> </tr> <tr> <td>✓</td> <td>dev</td> <td>dev</td> </tr> </table> <p>Reason or reasons must relate to the named stakeholder</p>	✓	✓	✓	✓	dev	✓	✓	dev	dev
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Question	Answer/Indicative content	Mark	Guidance
5 (a)	<p>Level 3 (5-6 marks)</p> <p>Reasons given why the chosen option is a good solution for the future of the Mullion Cove, with developed explanation of ideas, showing good understanding They demonstrate developed skills of analysis and evaluation Written work is legible and spelling, punctuation and grammar are accurate. Meaning is communicated very clearly</p> <p>Level 2 (3-4 marks)</p> <p>Reason(s) given why the chosen option is a good solution for the future of Mullion Cove, with simple explanation of ideas, showing some understanding They demonstrate simple skills of analysis and evaluation. Written work is legible and spelling, punctuation and grammar are mostly accurate. Meaning is communicated clearly.</p> <p>Level 1 (1-2 marks)</p> <p>Reason(s) given why the chosen option is a good solution for the future of Mullion Cove, with limited or no explanation, showing limited understanding with little development. They demonstrate limited skills of analysis and evaluation. Written work contains mistakes in spelling, punctuation and grammar, which sometimes hinders communication.</p> <p>0 Marks</p> <p>No evidence submitted or response does not address the question</p>	6	<p>There are no wrong options- any option with appropriate explanation is acceptable</p> <p>Examiners are reminded that Quality of Written Communication is integrated with the level descriptors. QWC will reflect how clearly ideas and concepts are expressed, but should not restrict candidates from reaching L2 or L3</p> <p>See Indicative Material Table (page 12)</p>

Question		Answer/Indicative content	Mark	Guidance												
	(b) ✓ dev	See table on page 12	3	Points marking <table border="1"> <tr> <td>✓</td> <td>✓</td> <td>✓</td> </tr> <tr> <td>✓</td> <td>dev</td> <td>✓</td> </tr> </table>	✓	✓	✓	✓	dev	✓						
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✓	dev	✓														
	(c) ✓ dev	See table on page 12	4	Maximum of 2 marks per option <table border="1"> <tr> <td>✓</td> <td>dev</td> <td>✓</td> <td>dev</td> </tr> <tr> <td>✓</td> <td>✓</td> <td>✓</td> <td>dev</td> </tr> <tr> <td>✓</td> <td>✓</td> <td>✓</td> <td>✓</td> </tr> </table>	✓	dev	✓	dev	✓	✓	✓	dev	✓	✓	✓	✓
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	(d) ✓ dev	See table on page 12	3	<table border="1"> <tr> <td>✓</td> <td>✓</td> <td>✓</td> </tr> <tr> <td>✓</td> <td>dev</td> <td>✓</td> </tr> </table>	✓	✓	✓	✓	dev	✓						
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You must refer to the Options Table given on Page 6 of the Question Paper and accept points from this		
Option	Advantages	Disadvantages
<p>1.</p> <p>Construct a breakwater beyond the harbour and continue to maintain it and the harbour walls</p>	<ul style="list-style-type: none"> • Reduced pressure on the harbour wall • Harbour survives for a longer time • Allows economic activities to continue (fishing) • Will protect tourist facilities (such as the beach) • Cheaper maintenance cost over lifetime of structure 	<ul style="list-style-type: none"> • Most expensive to build • May not completely stop damage to harbour • Repair and Maintenance costs still required • Breakwater visually unattractive • Effects of future storms unknown, so don't know how much it will actually cost
<p>2.</p> <p>Maintain and repair the harbour walls unless a major storm causes significant damage.</p>	<ul style="list-style-type: none"> • Will maintain the life of the harbour walls • Relative cost reduces the longer it lasts • Economic activities can continue (fishing fleet), • Tourist facilities will continue to be protected for as long as possible • Continue to provide protection for the settlement (houses) 	<ul style="list-style-type: none"> • Uncertainty over how long it will last / may only be short term solution • increasing frequency of storms/ big storm will mean reverting to Option 3 • Dependent on volunteers • Most expensive maintenance cost over lifetime of structure • Harbour walls may be overtopped/damaged in another storm
<p>3.</p> <p>Stop maintenance and repair and allow the harbour walls to gradually be eroded by the sea</p>	<ul style="list-style-type: none"> • Let's nature take its course • Cheapest option • No money wasted (as a result of unpredictability of future storms) • Can be managed safely • Still some protection from harbour wall - possibly over 20-50 years 	<ul style="list-style-type: none"> • Harbour wall will eventually be lost • Loss of businesses (fishermen) • Loss of tourist activities without harbour walls and beach • Cost of repairing damage to homes and properties nearby, • Highest risk of damage to village

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