Rural environments- 1

Name: _____

Class: _____

Date:_____

Time:

Total Marks Available:

Total Marks Archived:

Level: IGCSE Mathematics A

Subject: Geography

Exam Board: Edexcel IGCSE Geography- it is however suitable for use by mathematics student of

other boards

Topic: Rural environments -1

Type: Mark Scheme

To be used by all students preparing for Edexcel IGCSE Geography- Students of other Boards may also

find this useful

Mark Scheme

Q1.

Question number	Indicative content
	AO3 (4 marks)/AO4 (4 marks)
	Marking instructions
	Markers must apply the descriptors in line with the general marking guidance and the qualities outlined in the levels-based mark scheme below.
	Indicative content guidance
	The indicative content below is not prescriptive and candidates are not required to include all of it. Other relevant material not suggested below must also be credited. Relevant points may include:
	AO3 • The goods and services they provide are vital to sustaining well-being, and to future economic and social development. • All goods and services are important, but their significance will vary both spatially and temporally, depending on a range of factors. • There is a complex relationship between soils, climate and vegetation which affect this overall pattern of goods and services provided by a given biome or ecosystem; for example biomes with ample rainfall and warm temperatures may have high productivity and a larger amount of provisioning

	• The pattern of biomes can be interrupted locally by people, e.g. agricultural systems which can modify the vegetation, although this map (Figure 2c) is unable to directly show these local scale effects. This can result is modification of goods and services. **AO4** • Figure 2c shows the that there are 4 types of goods and services: regulating, cultural, supporting and provisioning • On Figure 2c, it can be seen that there is no hierarchy of goods and services; all are positioned equally within the triangle • Figure 2c shows that each of the main goods and services contains a number of sub-ideas and linked systems related to the overarching function.

Level	Mark	Descriptor
	0	No rewardable material.
Level 1	1–3	• Attempts to apply understanding to deconstruct information but understanding and connections are flawed. An unbalanced or incomplete argument that provides limited synthesis of understanding. Judgements that are supported by limited evidence. (AO3) • Uses some geographical skills to obtain information with limited relevance and accuracy, which supports few aspects of the argument. (AO4)
Level 2	4–6	• Applies understanding to deconstruct information and provide some logical connections between concepts. An imbalanced argument that synthesises mostly relevant understanding, but not entirely coherently, leading to judgements that are supported by evidence occasionally. (AO3) • Uses geographical skills to obtain accurate information that supports some aspects of the argument. (AO4)
Level 3	7–8	• Applies understanding to deconstruct information and provide logical connections between concepts throughout. A balanced, well-developed argument that synthesises relevant understanding coherently leading to judgements that are supported by evidence throughout. (AO3) • Uses geographical skills to obtain accurate information that supports all aspects of the argument. (AO4)

Q2.

Question number	Indicative content
	AO3 (4 marks)/AO4 (4 marks) **Marking instructions** Markers must apply the descriptors in line with the general marking guidance and the qualities outlined in the levels-based mark scheme below. **Indicative content guidance** The indicative content below is not prescriptive and candidates are not required to include all of it. Other relevant material not suggested below must also be credited. Relevant points may include the following. **AO3** • Humans have an impact on the landscape in various ways through their activities in family lives and as part of industry. • Primary industries involve extraction of materials from the natural environment. Primary industries have a significant impact on the forested rural landscapes. • Many forests are cleared for agriculture as well as for timber, both contributing to economic development. • Brazil's economic growth has benefitted greatly from the value provided by the forests. • In the case of the Amazon rainforest humans have had a significant impact clearing huge areas of land for various economic activities. Deforestation has taken place both to sell the timber, but also to create more land for agriculture and other industries. To access these areas, roads and transport infrastructure (Trans-Amazonian highway for example) also had to be built into the forest, creating further damage to the landscape. • Such can increase processes of soil erosion as the land becomes exposed, which can contribute to land degradation. **AO4** • Figure 1c shows the rate of deforestation in Brazil have fluctuated greatly but with an overall decline from 1994 to 2016. • Figure 1c shows that crop yields fluctuated from 1994 to 2016 but experienced an overall increase. • Figure 1c shows a drop in deforestation from 2005-2012. • Figure 1c shows a slight increase in deforestation after 2014. • Figure 1c shows a peak in crop yield in 2015 at around 5,000kg per hectare.

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Level 3	7–8	• Applies understanding to deconstruct information and provide logical connections between concepts throughout. A balanced, well-developed argument that synthesises relevant understanding coherently, leading to judgements that are supported by evidence throughout. (AO3) • Uses geographical skills to obtain accurate information that supports all aspects of the argument. (AO4)

Q3.

Question number	Answer	Mark
	AO2 (2+2 marks)	
	Award 1 mark for a reason and a further expansion mark, up to a maximum of 2 marks each.	
	• Increased mechanisation of agriculture (1) means that machines replace people for some agricultural tasks (1).	
	• Farming systems have become more efficient and profitable (1) and as a result they have been able to reduce their workforce (1).	
	• Changes in farm operations / systems, e.g. production of biofuels (1) means that there may be a reduction in the workforce required (1).	
	• External pressure to be more competitive and profitable, e.g. from supermarkets (1) mean that some farmers have reduced number of workers in order to remain operational (1).	
	• Workers have been placed on short term contracts (1) so that agricultural operations can be more flexible and profitable (1).	(4)
	Accept any other appropriate response.	

Q4.

Question number	Answer	Mark
	AO1 (1 mark)	
	• A set of factors or reasons as to why a rural area might go into continued decline (1). • (Government) spending money and not getting full value or financial return from the initial outlay (1).	
	Accept any other appropriate responses.	(1)

Q5.

Question number	Answer	Mark
	AO1 (1 mark) Award 1 mark for any of the following. • The growing of high-yield crops (in large fields) (1). • The use of fertilisers and/or pesticides to remove weeds/pests or to maximise yields (1). • Keeping livestock indoors to maximise food production (1). Accept any other appropriate response.	(1)

Q6.

Question number	Answer	Mark
(i)	**AO1 (1 mark)** • A natural environment that includes flora (plants) and fauna (animals) that live and interact within that environment (1). Accept any other appropriate response.	(1)

Question number	Answer	Mark
(ii)	**AO1 (2 marks)** A Emission of oxygen D Recycling of nutrients B, C , E and F are incorrect as they are goods provided by ecosystems, not services.	(2)

Q7.

Question number	Answer	Mark
	AO2 (1 mark)/AO3 (1 mark) Award 1 mark (AO2) for suggesting one reason and a further 1 mark (AO3) for an appropriate extension, up to a maximum of 2 marks. • Flat land (1), which means that it is easy to operate machinery/use machinery to harvest crops (1). • Fertile soil (1), which means that the farmer will be able to grow crops (1). • Suitable climate/levels of rainfall/temperature (1), which means that there will be a sufficiently long growing season for crops (1). Accept any other appropriate response.	**(2)**

Q8.

Question Number	Answer	Mark
(i)	C High humidity (1). The answer cannot be A (rainforests are not arid), B (rainforests have high temperatures), or D (these are associated with tundra climate).	**(1)**

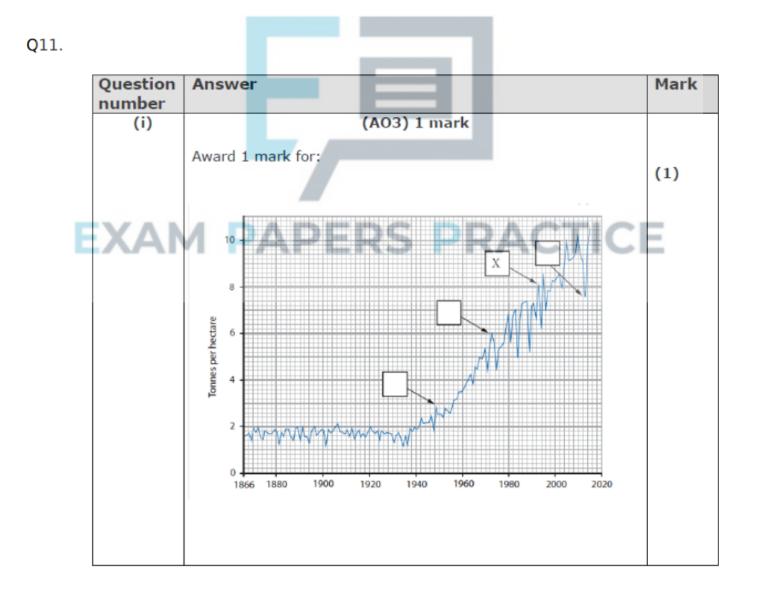| Question Number	Answer	Mark
(ii)	**AO1 (1 mark)** • Plant and animal community covering a large area of the Earth's surface (1). • A large ecological area defined by abiotic factors (e.g. climate/relief/vegetation) (1). Accept any other appropriate responses.	**(1)**

Q9.

Question number	Answer	Mark
	AO1 (1 mark) D tundra D is the correct answer as the other options are smaller scale ecosystems, rather than biomes.	**(1)**

Q10.

Question number	Answer	Mark
	(AO1) 1 mark	
	B Climate regulation	**(1)**

Q11.

Question number	Answer	Mark
(i)	**(AO3) 1 mark** Award 1 mark for: 	**(1)**

Question number	Answer	Mark
(ii)	**(AO3) 1 mark** Award 1 mark for: D 1960-1970	**(1)**

Question number	Answer	Mark
(iii)	**AO1 (1 mark)** Award 1 mark for any of the following. • High production in a small area (1) • High input farming (1) • High yield farming (1) • High level of mechanisation and / or labour (1) Accept other appropriate answers.	**(1)**

Q12.

Question number	Answer	Mark
	AO1 (1 mark) / (AO3) 2 marks Award 1 mark for an identification of a trend and a further 2 marks for extension through explanation or description, up to a maximum of 3 marks. • There has been an increase in average farm size between 2009-2016 (approximately 420 to 440 acres) (1) as larger farms are more efficient with mechanisation (1) allowing greater profitability per unit land (1). • There has been a decrease in the number of farms (2.17m to 206m in 2016) (1) as farms grow in size (merging with smaller farms) (1) in an attempt to be more profitable (1). Accept any other appropriate response.	(3)

Q13.

Question number	Answer	Mark
(i)	**AO2 (1 mark) /AO3 (1 mark)** Award 1 mark for suitable reason using evidence from the photograph (AO3), and a further 1 mark for extension through explanation (AO2), up to a maximum of 2 marks. • Building created in the landscape (1) to create amenities for tourists (1). • Transport routes (1) provide easy access to the countryside (1). • Farmland to be repurposed (1) as value for some crops too low (1). Accept any other appropriate response.	(2)

Question number	Answer	Mark
(ii)	**AO1 (1 mark)** Award 1 mark for any of the following: • Farm diversification (1). • Changing employment patterns (1). • Increased tourist pressures (1). • Rural isolation (1). Accept any other appropriate response.	(1)

Q14.

Question Number	Answer	Mark
	AO2 (1 mark) / AO3 (1 mark) Award 1 mark for basic evidence from the from the image (AO3) and a further 1 mark for extension through explanation (AO2), up to a maximum of 2 marks. • The machinery is cutting the trees (1) showing how the forest can provide timber (1). • There are piles of tree trunks (1) which could be used to make furniture and other goods (1).	
	• The wood being collected by the loggers (1) might be used for firewood (1). Accept any other appropriate responses.	(2)