

Friday 17 June 2016 – Morning

GCSE ENVIRONMENTAL AND LAND-BASED SCIENCE

B681/01 Management of the Natural Environment (Foundation Tier)

Candidates answer on the Question Paper.

OCR supplied materials:

None

Other materials required:

- Pencil
- Ruler (cm/mm)
- Calculator

Duration: 1 hour



Candidate forename				Candidate surname				
Centre number					Candidate nu	ımber		

INSTRUCTIONS TO CANDIDATES

- Write your name, centre number and candidate number in the boxes above. Please write clearly and in capital letters.
- Use black ink. HB pencil may be used for graphs and diagrams only.
- Answer all the questions.
- Read each question carefully. Make sure you know what you have to do before starting your answer.
- Write your answer to each question in the space provided. Additional paper may be used if necessary but you must clearly show your candidate number, centre number and question number(s).
- Do **not** write in the bar codes.

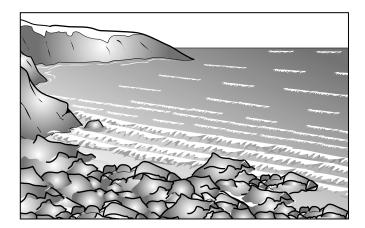
INFORMATION FOR CANDIDATES

- The quality of written communication is assessed in questions marked with a pencil ().
- The number of marks is given in brackets [] at the end of each question or part question.
- The total number of marks for this paper is 50.
- This document consists of 12 pages. Any blank pages are indicated.



Answer **all** the questions.

1 Students are planning a scientific investigation on a rocky seashore.



Before they start, they have been told to produce a risk assessment for their activity.

Which **two** of the following hazards are the most likely on a rocky seashore?

Put ticks (\checkmark) in the boxes next to the **two** correct answers.

cut off by the tide					
electrocution					
poisonous plants					
slipping over					
snake bites					

[2]

2	elec	mers may earn more money from their land by using it for alternative methods of productricity. One way of doing this is by growing willow trees. The branches are harvested and be produce heat to drive turbines.	
	This	s method could be described as being:	
	A	fuel crop	
	В	ground source heating	
	С	solar power	
	D	wind power	
		Answer A, B, C or D	. [1]
3	A Ic	pam soil contains similar proportions of three main components.	
	Wh	at are these three main components?	
	1		
	2		
	3		[3]

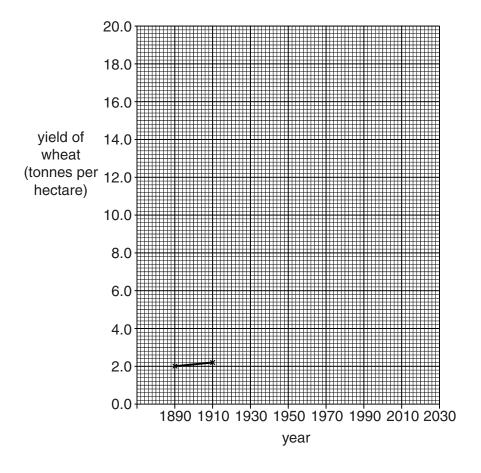
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4 The table shows the mean (average) yield of wheat in the UK.

Year	Yield of wheat (tonnes per hectare)
1890	2.0
1910	2.2
1930	2.4
1950	2.8
1970	3.9
1990	6.0
2010	8.7

(a) (i) Plot this data onto the graph below.

The first two points have been done for you.



[3]

(ii) Use the graph to predict the yield of wheat for 2030.

predicted yield in 2030 =tonnes per hectare [1]

	(iii)	Suggest three reasons for the large increase in wheat yield in the UK.
		Reason 1
		Reason 2
		Reason 3
		[3]
(b)		010, experts stated that the mean yield of wheat across the world was only 33.3% of that ne UK.
	Cald	culate the mean yield of wheat across the world in 2010.
		mean yield = tonnes per hectare [1]
(c)		mean yield of wheat per hectare across the world is significantly less than that of the UK. gest two reasons why.
	Rea	son 1
	Rea	ison 2
		rej
		[2]

	6
5	The Rare Breeds Survival Trust (RBST) is a UK conservation organisation.
	Name two types of animal that the RBST would help to conserve.
	Animal 1
	Animal 2
	[2]
6	A builder submits plans for a new housing estate.
	The planning officers agree to these plans but insist that the builder also plants trees in the new housing estate.
	Describe the benefits of planting trees in the new housing estate.
	The quality of written communication will be assessed in your answer to the question.
	The quality of written communication will be assessed in your answer to the question.

7 Commercial production of animals and plants may be **extensive** or **intensive**.

Complete the table below with an example of each method of production.

The first one has been done for you.

	Example of EXTENSIVE method of production	Example of INTENSIVE method of production
Trees	harvesting ancient woodlands	conifer plantations
Poultry		
Fish		
Farm animals		
Plant crops		

[4]

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8 Foxes are commonly seen across the UK.

Their numbers are increasing.



Describe the adaptations which allow the fox to be so successful.

The quality of written communication will be assessed in your answer to the ques	stion.
	[6]

9	Far	mers and growers provide nutrients to their crops.			
	The	ey may compost organic matter to supply nitrates.			
	The	e process that releases these nutrients for the plants is called:			
	A	addition			
	В	decay			
	С	fixation			
	D	nitrification			
		Answer A, B, C or D	[1]		
10	A s	chool keeps records of temperature, sunlight and rainfall from a weather station.			
	This	s data is recorded and stored so it may be used for future reference.			
	The school farm is planning to cultivate some land and sow a crop in spring.				
	Sug	ggest two ways the weather data may be useful to the school farm.			
	1				
	2				
			[2]		
			[4]		

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11 Scientists agree that earthworms are important to the health of the soil.

Describe the ways earthworms improve the soil.	
The quality of written communication will be assessed in your answer to the question.	
	••
	••
	••
[6	5]

12	Wh	ich one of the following is not involved in soil formation?	
	A	conduction	
	В	deposition	
	С	erosion	
	D	weathering	
		Answer A , B , C or D [1]
13	Lar	ge machines used on farms can damage the soil.	
	Suç	ggest three ways large machines can damage the soil.	
	1		
	2		
	3		
			 [3]
14	A n	narket garden has been left unattended for many months.	
	It h	as become overgrown with weeds.	
	Wh	ich of the following is the best reason for removing these weeds before a crop is grown?	
	A	Weeds will encourage biodiversity.	
	В	Weeds may be used as an alternative fuel crop.	
	С	Weeds will reduce the amount of light for the crop.	
	D	Weeds will stop crops from being picked.	
		Answer A , B , C or D [1]

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15 Some students sample the pH of the soil at different places in a wood.

Their results are shown below.

Student	Α	В	С	D	E	F	G	Н
pH of sample	7.2	7.1	7.2	6.9	7.0	6.5	7.0	7.1

(a) What is the mean (average) soil pH in this wood?

	[1]
b)	All of the students have used the same technique.
	Suggest a possible reason why student F 's result is so different.
	[11]

END OF QUESTION PAPER



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