Centre No.				Paper	r Refei	ence (compl	ete bel	low)		Surname	Initial(s)
Candidate No.							F	/	1	F	Signature	

Paper Reference(s)

5016F/1F 5028F/1F Edexcel GCSE

Additional Science (5016F) Biology (5028F)

B2 – Topics 1 to 4

Foundation Tier

Tuesday 7 June 2011 – Afternoon

Time: 30 minutes

Materials required for examination

Items included with question papers

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Question

1

2

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Leave

Examiner's use only

Instru	ations	to	Can	dida	tos

In the boxes above, write your centre number, candidate number, your surname, initial(s) and signature, and complete the paper reference.

Check that you have the correct question paper.

Answer ALL the questions. Write your answers in the spaces provided in this question paper.

Do not use pencil. Use black ink.

Show all stages in any calculations and state the units. Calculators may be used.

Include diagrams in your answers where these are helpful.

Information for Candidates

The marks for individual questions and the parts of questions are shown in round brackets: e.g. (2). There are 7 questions in this question paper. The total mark for this paper is 30. There are 12 pages in this question paper. Any blank pages are indicated.

Advice to Candidates

You are reminded of the importance of clear English and careful presentation in your answers.

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Turn over

Total



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1. Tigers are predators.



(a) Describe how the named structures help tigers survive.

(i)	Pointed teeth	
	(1	 l)
(ii)	Large muscular back legs	
		•
	(1	l)
(iii)	Striped coat	
		•
	(1	l)

(b)	A species of tiger used to be found on Java, a large island near Australia. Suggest two reasons why this tiger is now extinct.	Leave blank
	(2)	Q1
	(Total 5 marks)	

Leave blank 2. When certain substances are in excess, they can become pollutants and cause environmental problems. Draw one straight line from each pollutant to the environmental problem it causes. pollutant environmental problem acid rain carbon dioxide global warming sulphur dioxide ozone depletion **CFCs** eutrophication Q2 (Total 3 marks)

3. Willow trees grow faster than most other trees and can grow in waterlogged soil. Waterlogged soil stops air getting to their roots.



(a) Use words in the box to complete the sentences.

carbon dioxide diffusion leaves
oxygen respiration photosynthesis roots

Willow	trees	absorb	light	for	
1111011		accord	110110	101	 ľ

They absorb most water through their

Oak trees do not grow very well in waterlogged soils because their roots cannot absorb enough

(3)

(b) Bob has three willow trees in his garden.He trims the trees often because they grow quickly.Bob meets his neighbour when he is putting his rubbish out to be collected.

Look at all the rubbish that I put out each week!

You should recycle more like we do.

Bob

(i) Bob decides to compost his willow cuttings at home.

Suggest how composting waste helps the environment.

Neighbour

	(1)
(ii)	Bob's neighbour recycles paper.
(11)	State one reason why all paper cannot be recycled.

Q3

(1)

(Total 5 marks)

Leave blank

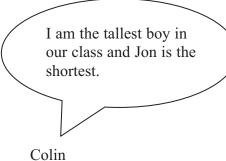
4. Write either **yes** or **no** in each box to complete the table. The first row has been done for you.

		aerobic respiration	anaerobic respiration
	provides energy	yes	yes
(a)	uses oxygen		
(b)	uses glucose		
(c)	produces lactic acid		

Q4

(Total 3 marks)

5. Colin and Freddie were discussing the height of boys in their class.



That is because your dad has long legs.

Freddie

They measured the heights of the boys in their class to the nearest centimetre. The table shows their results.

152	165	187	157
166	174	196	166
175	179	184	163

(a) What is the range of boys height in this class?

answer =	 cm
	(1)

(b) Height is influenced by a number of factors. State **two** factors that influence height.

1	
7	

(2)

(c) Name the type of cell division that takes place in humans for growth to occur.

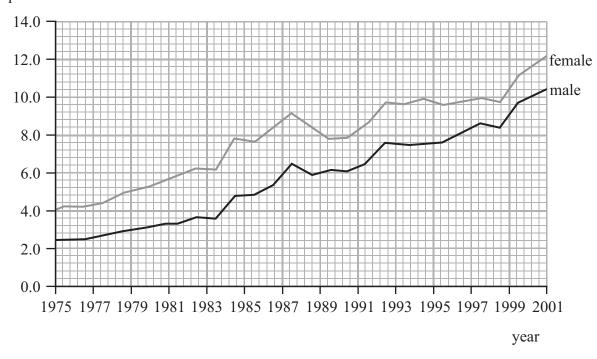
(1)

(1) Q5

(Total 4 marks)

6. The graph shows changes in the number of cases of skin cancer in males and females from 1975 to 2001.

skin cancer cases per 100 000 population



(a) Compare the pattern of skin cancer cases in males and females from 1975 to 2001.

 (2)

(b) The occurrence of skin cancer is a living indicator.

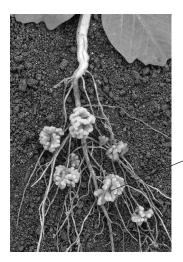
State another example of a living indicator that could be used to monitor air pollution.

(1)

(Total 3 marks)

Q6

7. Pea plants have root nodules that contain bacteria.



root nodules

Wally Eberhart, Visuals Unlimited/Science Photo Library

(a)	Explain how the root nodules help the pea plant to grow.
	(2)
(b)	When the pea plant dies, compounds containing nitrogen are released into the soil. Explain how these compounds containing nitrogen are cycled through the environment.
	(2)

		Leave
		blank
((c) Farmers use compounds containing nitrogen as fertilisers. Describe the effects of overuse of these fertilisers on rivers.	
	Describe the effects of overuse of these fertilisers of fivers.	
	(3)	Q7
	(3) (Total 7 marks)	Q7
		Q 7
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