Centre No.			Paper Reference (complete below)					ete be	Surname	Initial(s)		
Candidate No.							Н	/	1	H	Signature	

Paper Reference(s)

5016H/1H 5028H/1H **Edexcel GCSE**

Additional Science (5016H) Biology (5028H)

B2 – Topics 1 to 4

Higher Tier

Tuesday 7 June 2011 – Afternoon

Time: 30 minutes

Materials required for examination

Items included with question papers

Instructions to Candidates

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 6 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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Total

Examiner's use only

Team Leader's use only

Question

1

2

3

4

5

6

Leave

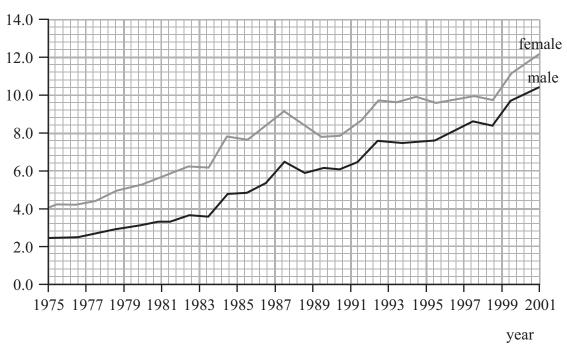
Turn over



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1. 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.

(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.

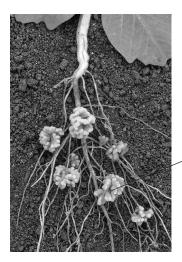
(1)

(Total 3 marks)

(2)

Q1

2. 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)

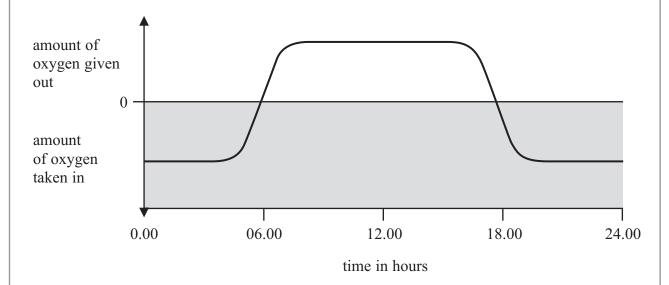
(0)	Farmers use compounds containing nitrogen as fertilisers.		
	Describe the effects of overuse of these fertilisers on rivers.		
		••••••	
		(3)	
	(Total 7 n	narks)	

3. Plants carry out both photosynthesis and respiration in the daytime.

(a) Write the word equation for photosynthesis.



The line on the graph shows the changes in the amount of oxygen given out and taken in by a plant in one day.



(b) For how many hours does the amount of oxygen given out exceed the amount of oxygen taken in?

(1)

(c) State one limiting factor affecting oxygen production at 06.00 hours.

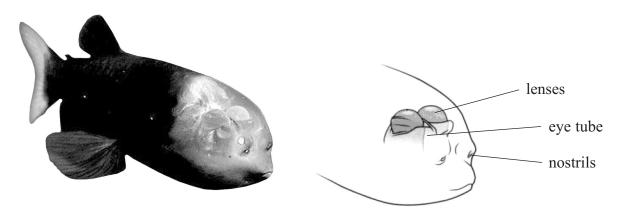
(1)

(Total 4 marks)



Q3

4. The barreleye fish lives in the deep ocean. It has a transparent head with tube shaped eyes which face upwards.



(a)	State two conditions in very deep seas that make it difficult for some organisms to survive.
	1
	2
	(2)
(b)	Most of the time, the barreleye fish remains motionless in the water. Its eyes always look upward.
	Suggest how these adaptations help the barreleye to survive at extreme depths in the deep seas.
	(2)

(Total 4 marks)

Q4



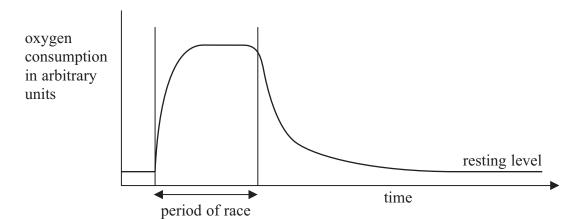


6. Some runners take deep breaths before the start of a sprint race but do not breathe while running.



(a)	Describe now ventuation moves air into the lungs.
	(2)
	(3)

(b) The graph shows how oxygen consumption changes before, during and after the sprint race.



Use scientific principles to explain the changes in oxygen consumption shown in the graph.

Q6

(Total 8 marks)

TOTAL FOR PAPER: 30 MARKS

END



