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General Certificate of Secondary Education 2011–2012

Science: Single Award (Modular)

Human Activity and Health Module 2

Foundation Tier

[GSC21]

TUESDAY 8 NOVEMBER 2011 2.30 pm-3.15 pm



TIME

45 minutes.

INSTRUCTIONS TO CANDIDATES

Write your Centre Number and Candidate Number in the spaces provided at the top of this page.

Write your answers in the spaces provided in this question paper. Answer **all seven** questions.

INFORMATION FOR CANDIDATES

The total mark for this paper is 45.

Figures in brackets printed down the right-hand side of pages indicate the marks awarded to each question or part question.

For Examiner's use only			
Question Number	Marks		
1			
2			
3			
4			
5			
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7			

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Marks	



1	(a)	(i)	Complete the following	Sentences. Examiner Only Marks Remar	k
			Choose from:		
			nitrogen : bronch	tis : addiction : carbon monoxide	
			Smoking can harm the	body. Harmful substances in cigarette	
			smoke include nicotine	and Tar is also	
			present and can cause	[2]	
		(ii)	What is the effect of ni	cotine on the body?	
				[1]	
	(b)		igs can also cause harn in effect.	n. Using lines, link each type of drug to its	
			Drug	Effect	
				Makes users angry	
			Cocaine		
				Gives users a 'high'	
			Cannabis		
				Makes users feel relaxed	
				[2]	

(c) John enjoys drinking alcohol but thinks that he may be drinking too Examiner Only much and harming his body. **Circle** two things that he could do to limit his alcohol intake. drink coffee stick to recommended limits drink low alcohol drinks [2] binge drink at weekends

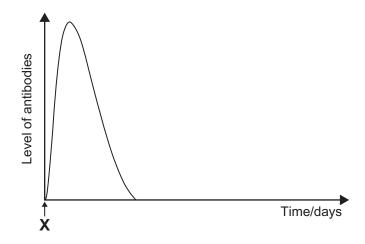
2 (a) Name a disease caused by a virus.

Choose from:

thrush	polio	tuberculosis	
			[1

Examiner Only

(b) The following graph shows how the number of antibodies in the blood changes during passive immunity.



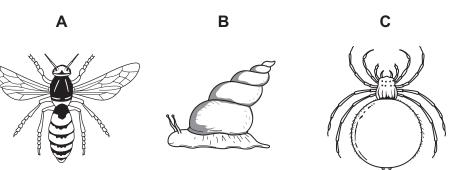
(i) State what is given at **X** to produce passive immunity.

Choose from:

booster	antibodies	blood	
			[1]

(ii) Give one advantage of passive immunity. **Examiner Only** Choose from: is permanent: works quickly: only lasts for short time _____[1] (c) Name the type of microbe that antibiotics defend against. Choose from: virus bacteria fungi _____[1] (d) Better health has helped the human population to increase. Which of the following graphs best shows this increase? Α В С Answer (A, B or C) [1]

3 (a) Use the key below to identify each of the following animals.



Place a letter (A, B or C) in the correct box beside the animal's name.

1 Shell present Water snail

Shell absent go to 2

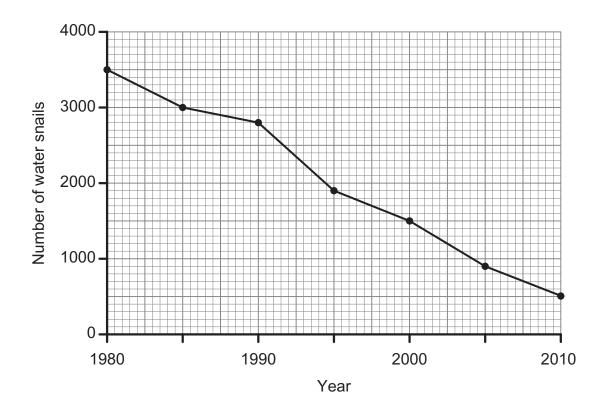
2 Wings present Insect

Wings absent Spider

[2]

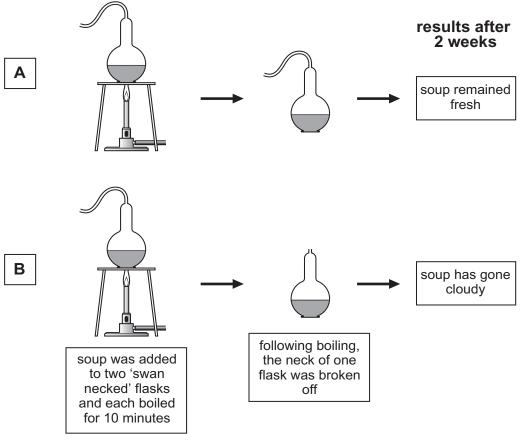
Examiner Only

(b) The graph below shows the results of a survey of water snails in a Northern Ireland river over the last thirty years.



(i)	Calculate the change in the number of water snails from 1980 to 2010.	Examin Marks	er Only Remark
	Show your working		
	[2]		
(ii)	Snails have become an endangered species. What will happen to them if their numbers continue to fall?		
	[1]		
(iii)	What is the most likely reason for the falling number of water snails?		
	Choose from:		
	increasing water levels: pollution: more food available		
	[1]		
(iv)	Give two pieces of information that show that the survey of water snails is reliable.		
	1		
	2[2]		

4 The following experiment was carried out in a science class.



Adapted from: © GCSE biology for CCEA by R McIlwaine & J Napier, page 69, published by Hodder & Stoughton, 2003. ISBN 9780340858257. Reproduced by permission of Hodder Education

(a)	Suggest one reason why the soup was boiled for 10 minutes at the
	start of the experiment.

_____[1]

(b) Explain fully the result for the soup in diagram A.

_____[2

(c) Suggest two things that must be done to ensure that the results of this experiment are valid (fair test).

1. _____

2. _____[2]

(d) Name the scientist who carried out a similar experiment using 'swan neck' flasks.

_____[1]

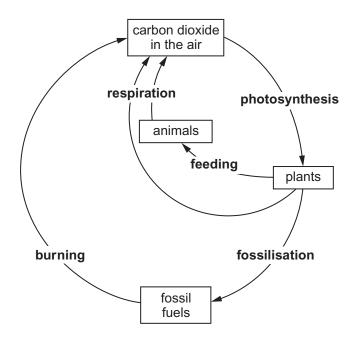
8

5 The following diagram shows part of the carbon cycle.

Examiner Only

Marks Remark

The processes are shown in **bold**.



(a) From the diagram, state **one** process that will not change carbon dioxide levels in the air.

[1]

(b) Use the diagram and your knowledge to state **two** reasons why the level of carbon dioxide in the air is increasing.

_____[2]

(c) Complete the following sentences.

Increasing levels of carbon dioxide cause ______.

This, in turn, is causing problems such as decreasing ice fields and

changing ______. [2]

6 Fig. A shows newly emerged seedlings surrounding their parent tree.

Examiner Only

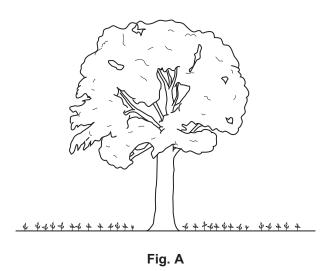
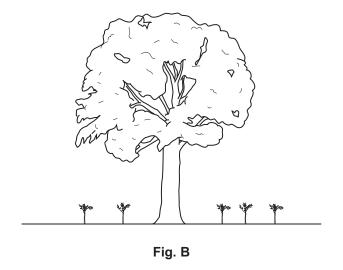


Fig. B shows the seedlings a year later under the same tree.



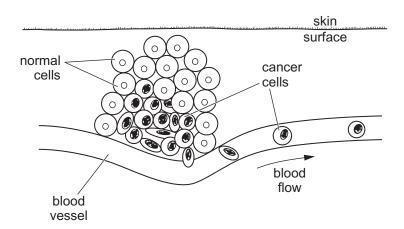
Describe and explain the differences in the number and distribution of seedlings between **Figs. A** and **B**.

[4]

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(Questions continue overleaf)

7 (a) The following diagram represents skin cancer.



Examiner Only

(i)	Use the diagram to suggest how cancer can spread to other
	parts of the body.

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	_	

(ii)	Explain	how	skin	cancer	cells	devel	ор
------	---------	-----	------	--------	-------	-------	----

 	 	[3]

(iii) Suggest one reason why the number of people from Northern
Ireland getting skin cancer is increasing.

(c)	Siol	Exan Marks	niner Only	
	(i)	Suggest why she should have a number of new vaccinations before travelling.		
			-	
		[2	- <u>'</u>]	
	(ii)	Explain why these vaccinations have to be given several weeks before she goes on holiday.		
		[1]	
	(iii)	Suggest why vaccinations such as MMR are free but many travely vaccinations have to be paid for.	I	
		[1]	
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