Centre No.					Pape	er Refer	ence			Surname	Initial(s)
Candidate No.			5	6	2	8	/	6	В	Signature	

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Edexcel GCSE

Biology B (1529)

(Modules 13 and 14)

Paper 6B

Higher Tier

Friday 15 June 2007 – Morning

Time: 30 minutes

Materials required for examination	I
Nil	N

tems included with question papers

Instructions to Candidates

In the boxes above, write your centre number, candidate number, your surname, initial(s) and

Check that you have the correct question paper.

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



This symbol shows where the quality of your written answer will also be assessed.

W850/R1536/57570 11/8/6/2/2/7200



Turn over

Total

Examiner's use only

Team Leader's use only

Question Number

1

2

3

4

5

6



Answer ALL the questions. Write your answers in the spaces provided.

1. Read this account.

One morning Mrs Jones bought a frozen chicken. She put the frozen chicken on the kitchen table to defrost for one hour. She then cooked the chicken for lunch. She cooked the chicken until the skin was brown then left it to cool by an open window.

The Jones family ate their chicken salad for lunch. They said that the chicken was very juicy.

The next day all the family were sick.

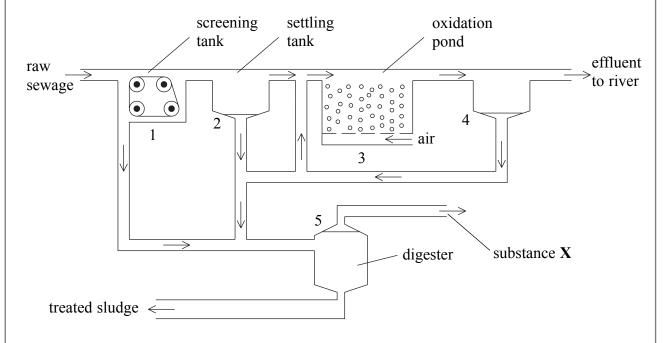
aggest the name of a micro-organism that may have caused the family t ck.	o occome
	(1)
ome of Mrs Jones' actions may have caused the family to be sick. xplain how two of these actions caused sickness.	
ction 1	
	(2)
ction 2	
	(2)

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2.		y sauce is made in two stages. stage 1, the fungus <i>Aspergillus</i> is used to ferment mashed up soya beans and roasted	blank
		eat. stage 2, yeasts and the bacterium <i>Lactobacillus</i> are used to ferment the mixture again fore it is filtered, pasteurised and bottled.	
	(a)	Soya beans have a high protein content. Describe the features of the fungus <i>Aspergillus</i> which make it suited for stage 1.	
	(b)	(2) State how the bacterium Lactobacillus lowers the nH in stage 2	
	(0)	State how the bacterium <i>Lactobacillus</i> lowers the pH in stage 2.	
	(c)	Explain why the mixture is filtered in stage 2.	
		(1)	Q2
		(Total 4 marks)	

Leave blank

3. The diagram shows the main stages in the activated sludge treatment of sewage.



(a) Describe how the microorganisms process the sewage in stage 3. Include the conditions required for the microorganisms to digest the sewage effectively.

(4	

(b) (i) Name substance X produced in stage 5. (1)

(ii) Give one use for the treated sludge produced during stage 5.

(1) Q3

(Total 6 marks)

4.	(a)	(i)	State how a disinfectant is similar to an antiseptic.	Leave
			(1)	
		(ii)	State how a disinfectant is different from an antiseptic.	
			(1)	
	(b)	Sta	te a situation where an antiseptic would be better to use than a disinfectant.	
		••••		
		••••	(1)	Q4
			(Total 3 marks)	

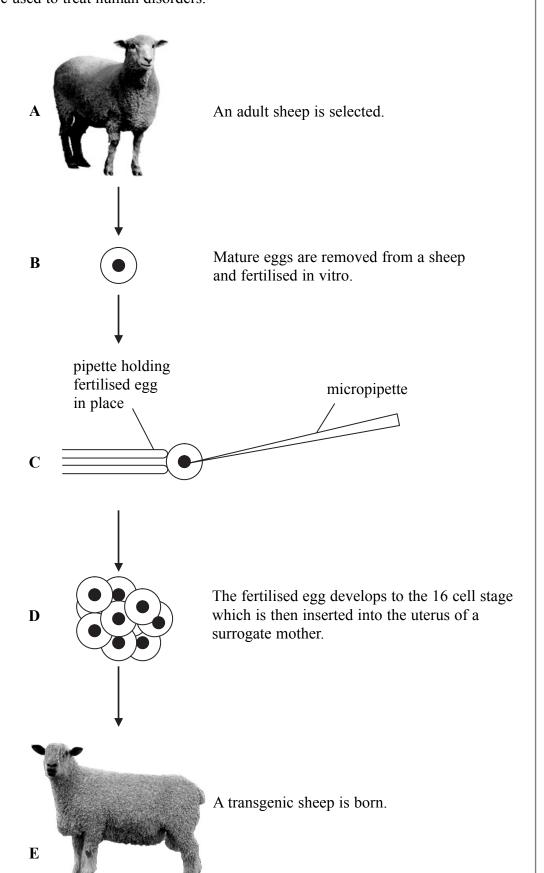
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5.	Elli	e is going to produce some apple trees by tissue culture (micro-propagation).
	(a)	Ellie considers three methods to sterilise the equipment she is going to use.
		 using an autoclave leaving in boiling water for five minutes soaking in disinfectant
		She decides to use the autoclave.
		Explain why the other two methods may not be as good for sterilising the equipment and using it for tissue culture.
		boiling water
		disinfectant
		(2)
	(b)	Ellie selects some leaves from a plant which has the characteristic that she wants. She cuts the leaf into small pieces called explants. Each piece is carefully put onto sterile nutrient agar using sterile equipment. The petri dishes are left in an incubator. After three weeks, Ellie finds that the explants have gone mouldy. Suggest what she should have done before she put the explants on the agar.
		(2)

Leav blan	All plants produced by tissue culture are clones. State the form of cell division that produces the new plants in tissue culture.	(c)
	(1)	
	Apart from producing clones, state an advantage of producing plants through tissue culture.	(d)
Q5	(1)	
	(Total 6 marks)	

Leave blank

6. The diagram shows some stages in creating transgenic sheep to produce useful proteins that can be used to treat human disorders.



Sources: www.extension.umn.edu and © Wensleydale Longwool Sheep Breeders' Association

	(2)
(b)	State two features the transgenic sheep at stage E must have before it is cloned to produce a flock of transgenic sheep.
	(2)
(c)	Describe how useful substances, produced by the transgenic sheep, are obtained and processed.
	(2)
	(2) (Total 6 marks)
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