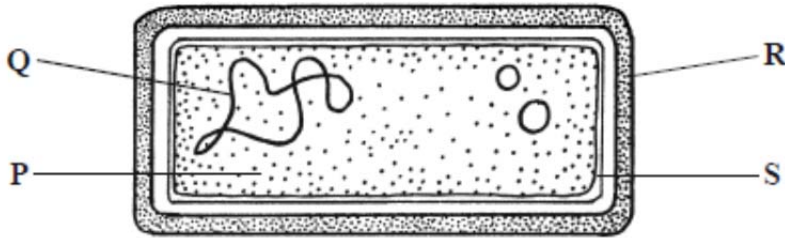


Section# 1

Q8.The diagram shows a typical bacterium, with parts labelled **P**, **Q**, **R** and **S**.



(a) (i) Which part is made from DNA?

..... (1)

(ii) Which part is the cytoplasm?

..... (1)

(b) *Lactobacillus* are bacteria that are used to make yoghurt. The table lists four stages, 1, 2, 3 and 4, and a description of what happens at each stage in the production of fruit-flavoured yoghurt.

Stage	Description
1	Raw milk is heated to 90 °C for 30 minutes
2	The milk is cooled to 40 °C and bacteria are then added
3	The mixture is kept at 40 °C for several hours until yoghurt is made
4	Fruit is sterilised and added to the yoghurt

(i) Suggest why stage 1 is needed.

..... (1)

(ii) Why must the milk be cooled during stage 2?

..... (1)

(iii) Explain why the mixture is kept at 40 °C for several hours during stage 3.

.....

.....

.....

(2)

(iv) Suggest why fruit is sterilised before being added to the yoghurt.

.....

.....

.....

(2)

**(Total 8 marks)**

**Q16.** The table gives descriptions of some biological processes. Complete the table by giving **one** word for the correct name of each process. The first one has been done for you.

Description of process	Name of process
removal of toxic waste from the body	excretion
fusion of male and female gametes	
evaporation of water from the leaves of a plant	
maintaining a constant level of substances in the body	
growth of a plant shoot towards light	
increasing the diameter of small arteries	
adjustments made by the eye to produce a clear image on the retina	

(Total 6 marks)

8. (a) (i) Q; (1)  
(ii) P; (1)
- (b) (i) kill bacteria / remove / get rid of / pasteurise / sterilise; (1)  
(ii) (added) bacteria not killed / not denatured / eq; (1)  
(iii) optimum / best / ideal / eq;  
for enzymes;  
for bacteria to reproduce;  
for lactic acid production;  
enough time to make yoghurt;  
**maximum of 2** (2)  
(iv) kill / remove / get rid of / bacteria / eq;  
so yoghurt not spoiled / contaminated / eq; (2)

**Total 8 marks**

16.

Description of process	Name of process
removal of toxic waste from the body	(excretion)
fusion of male and female gametes	fertilisation;
evaporation of water from the leaves of a plant	transpiration;
maintaining a constant level of substances in the body	homeostasis;
growth of a plant shoot towards light	(photo)tropism;
increasing the diameter of small arteries	(vaso)dilation;
adjustments made by the eye to produce a clear image on the retina	focusing / accommodation;

(6)

**Total 6 marks**

Q1. Living organisms can be put into major groups based on common features that they share. The table below shows some main groups of organisms, some of their features and some examples of each.

Complete the table to show the correct groups, **two** features of each group and **one** example of an organism in each group.

Group	Features	Example
animals	1 multicellular 2 do not contain chloroplasts	
bacteria	1 2	
	1 parasitic 2 only reproduce inside living cells	tobacco mosaic

(Total 5 marks)

Marks scheme

		human / eq;
	single celled; lack nucleus;	Lactobacillus / eq;
virus;		

(5)

Total 5 marks

2.

Different types of cells may contain different structures.

Complete the table to show the structures contained in the different cells. If the cell contains the structure put a tick (✓) in the box. If the cell does not contain the structure put a cross (✗).

Some have been done for you.

Cell	Structure			
	Nucleus	Cytoplasm	Cell wall	Chloroplast
neurone (an animal cell)		✓		
<i>Pneumococcus</i> (a bacterial cell)			✓	✗
yeast (a fungal cell)	✓			

(Total 4 marks)

Marks scheme

Cell	Cell structure			
	nucleus	cytoplasm	cell wall	chloroplast
neurone (an animal cell)	✓	(✓)	✗	✗
<i>Pneumococcus</i> (a bacterial cell)	✗	✓	(✓)	(✗)
yeast (a fungal cell)	(✓)	✓	✓	✗

1 mark per pair of correct answers in each column.

Total 4 marks



Q1.

Living organisms have certain characteristics in common. The table gives descriptions of some of these characteristics.

Complete the table by filling in the gaps.

Characteristic	Description
moving	not staying in the same place
excreting	
	increasing in size and mass
	getting energy from food
reproducing	

(Total 4 marks)

Marks scheme

Question Number	Question	Mark										
1												
	Acceptable Answers	Mark										
	<table border="1"> <thead> <tr> <th>Process</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td></td> <td>removing waste products (of metabolism)/eq;</td> </tr> <tr> <td>growing;</td> <td></td> </tr> <tr> <td>respiring;</td> <td></td> </tr> <tr> <td></td> <td>producing young /eq;</td> </tr> </tbody> </table>	Process	Description		removing waste products (of metabolism)/eq;	growing;		respiring;			producing young /eq;	(4)
Process	Description											
	removing waste products (of metabolism)/eq;											
growing;												
respiring;												
	producing young /eq;											

Total 4 marks

Q1. The table shows some characteristics of different types of organism. Complete the empty boxes in the table by giving an example of each type of organism, and by writing the word **YES** or **NO** to show whether the type of organism is multicellular or not.

Some of the boxes have been completed for you.

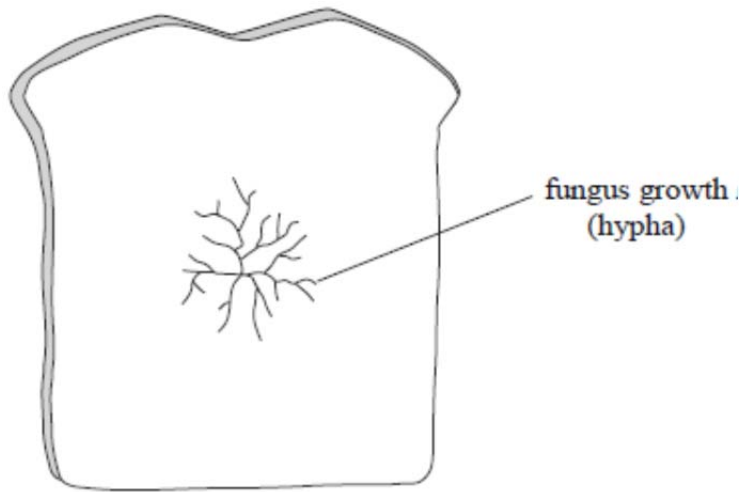
Type of organism	Example	Multicellular
plants		YES
animals		
bacteria	<i>Lactobacillus</i>	
viruses		NO

(Total 5 marks)

Marks scheme

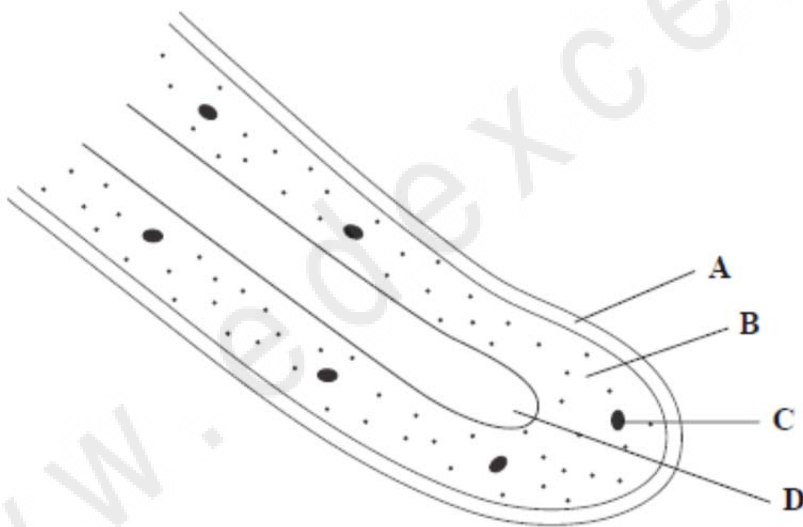
Question Number	Correct Answer	Acceptable Answers	Reject	Mark															
1	<table border="1"> <thead> <tr> <th>Type of organism</th> <th>Example</th> <th>Multicellular</th> </tr> </thead> <tbody> <tr> <td>plants</td> <td>maize / eq;</td> <td>YES</td> </tr> <tr> <td>animals</td> <td>human / eq;</td> <td>YES;</td> </tr> <tr> <td>bacteria</td> <td><i>Lactobacillus</i></td> <td>NO;</td> </tr> <tr> <td>viruses</td> <td>influenza / HIV / AIDS / TMV / eq;</td> <td>NO</td> </tr> </tbody> </table>	Type of organism	Example	Multicellular	plants	maize / eq;	YES	animals	human / eq;	YES;	bacteria	<i>Lactobacillus</i>	NO;	viruses	influenza / HIV / AIDS / TMV / eq;	NO			(5)
Type of organism	Example	Multicellular																	
plants	maize / eq;	YES																	
animals	human / eq;	YES;																	
bacteria	<i>Lactobacillus</i>	NO;																	
viruses	influenza / HIV / AIDS / TMV / eq;	NO																	
(Total 5 marks)																			

Q1. The drawing shows a piece of bread. The bread is going mouldy because a fungus is growing and feeding on it. When the fungus grows it produces many threads (hyphae) that spread over the bread.



The hyphae secrete enzymes that digest the bread. The products from this digestion are then absorbed by the fungus.

(a) The diagram shows a magnified view of a single hypha from the fungus.



(i) Name the parts labelled A, B, C and D.

A .....

B .....

C .....

D .....

(4)

(ii) Complete the table to name the type of enzyme secreted by the fungus and the products of digestion.

Name of enzyme secreted by fungus	Product of digestion
	maltose
protease	
	fatty acids and glycerol

(3)

(b) The passage below describes the part played by fungi in the carbon cycle. Complete the passage by choosing a suitable word or words to write on the dotted lines.

Many fungi are decomposers and play an important part in the carbon cycle.

Decomposition is the .....

of dead organisms, or other organic material, such as bread. The process releases

inorganic mineral ions, such as .....

into the soil. Decomposition also releases a gas called

..... into the air. This gas is

produced by a process called .....

which releases the energy that fungi need to grow. The same gas is taken

out of the air by plants and used in a process called

..... to make food.

(5)

(Total 12 marks)

Question Number	Correct Answer	Notes	Mark
1 (a) (i)	cell wall; cytoplasm; nucleus; vacuole;		(4)

Question Number	Correct Answer	Notes	Mark
1 (a) (ii)	amylase / carbohydrase; amino acids / polypeptides / peptides; lipase;		(3)

Question Number	Correct Answer	Notes	Mark
1 (b)	digestion / breakdown / decay / eq; nitrate / phosphate / other named mineral ion; carbon dioxide; respiration; photosynthesis;		(5)

(Total 12 marks)

1. The table lists three different types of organism. These organisms may or may not contain certain structures.

Complete the table to show the structures contained in the different organisms. If the organism contains the structure put a tick (✓) in the box. If the organism does not contain the structure put a cross (✗).

Some have been done for you.

Organism	Structure			
	chloroplasts	cytoplasm	cell wall	nucleus
fungus				✓
bacterium	✗		✓	✗
virus		✗	✗	

(Total 4 marks)



Answer					Mark
organism	structure				
	chloroplasts	cytoplasm	cell wall	nucleus	
fungus	X	/	/;	(/)	
bacterium	(X)	/;	(/)	(X)	
virus	X;	(X)	(X)	X;	
					(4)

1. (a) A student was asked to write a list of the characteristics shared by all living organisms. The list is shown below but it is not complete. Complete the list by writing the names of the missing characteristics in the empty boxes.

Characteristic
excretion
growth
movement
respiration
sensitivity

(2)

- (b) Suggest why excretion is important to living organisms.

.....

.....

.....

.....

(2)

(Total 4 marks)

Question Number	Answer	Mark
1(a)	nutrition / feeding / eq; reproduction / eq;	(2)

Question Number	Answer	Mark
1(b)	remove; waste / toxins / poisons / harmful substances / eq;	(2)

(Total 4 marks)

Q1. The list gives five different types of living organism.

**plants      animals      fungi      bacteria      viruses**

The table lists features of living organisms.

Complete the table by writing the correct type of living organism that has the feature.

The first one has been done for you.

<b>Feature</b>	<b>Type of living organism</b>
have cellulose cell walls	plants
all are parasitic and have a protein coat	
are microscopic and contain circular DNA	
some have structures called hyphae	
cells have a nucleus but no cell wall	

**(Total 4 marks)**

Question Number	Answer	Mark												
1	<table border="1"> <thead> <tr> <th>Feature</th> <th>Type of living organism</th> </tr> </thead> <tbody> <tr> <td>have cellulose cell walls</td> <td>(plants)</td> </tr> <tr> <td>all are parasitic and have a protein coat</td> <td>viruses;</td> </tr> <tr> <td>are microscopic and contain circular DNA</td> <td>bacteria;</td> </tr> <tr> <td>some have structures called hyphae</td> <td>fungi;</td> </tr> <tr> <td>cells have a nucleus but no cell wall</td> <td>animals;</td> </tr> </tbody> </table>	Feature	Type of living organism	have cellulose cell walls	(plants)	all are parasitic and have a protein coat	viruses;	are microscopic and contain circular DNA	bacteria;	some have structures called hyphae	fungi;	cells have a nucleus but no cell wall	animals;	(4)
Feature	Type of living organism													
have cellulose cell walls	(plants)													
all are parasitic and have a protein coat	viruses;													
are microscopic and contain circular DNA	bacteria;													
some have structures called hyphae	fungi;													
cells have a nucleus but no cell wall	animals;													

7. The passage describes the way in which alcohol is made by a fungus during the production of beer.

Write on the dotted lines the most suitable word or words to complete the passage.

Most fungi are made from thread-like structures called .....

and have ..... made of chitin. They also have lots of the

organelle called a ..... in their cytoplasm. The fungus

used to make beer is single-celled and is called .....

This fungus uses a process called ..... respiration to

convert a sugar called ..... into ethanol and a gas

called .....

**(Total 7 marks)**

---

Question Number	Answer
7	hyphae; (cell) walls; nucleus / mitochondria / ribosomes / eq; yeast; anaerobic; glucose; carbon dioxide;