Practice Question Set For GCSE
Subject : Biology
Paper-1 Topic: B2 Organisation

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Name of the Student:_____
Max. Marks : 26 Marks **Time : 26 Minutes**

Q1.

Anaerobic respiration in yeast is called fermentation.

The equation for fermentation is:

glucose → ethanol + carbon dioxide

(a) How does the equation show that fermentation is an **anaerobic** reaction?

_____

_____

(1)

Fermentation in yeast is used in the manufacture of beer, wine and bread.

(b) Why is fermentation used when making beer and wine?

_____

_____

(1)

(c) Explain why fermentation is used when making bread.

_____

_____

_____

_____

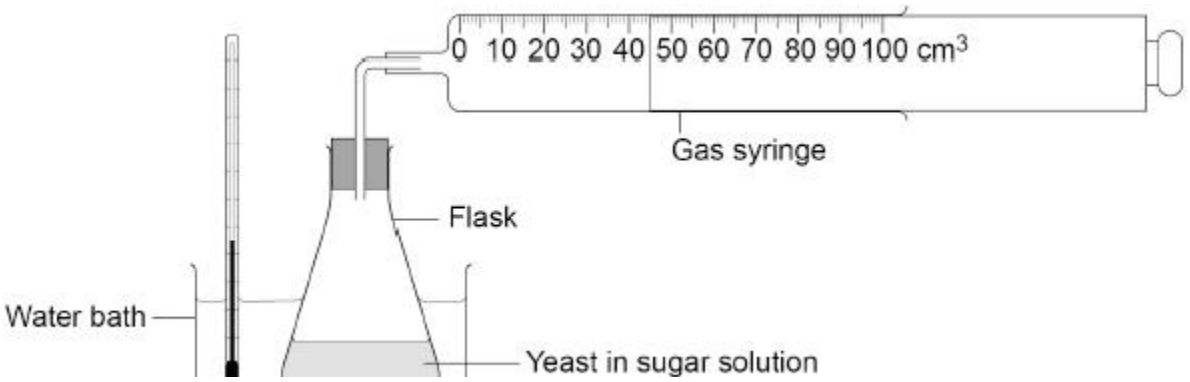
(2)

A student investigated fermentation in yeast.

Figure 1 shows the apparatus.

Figure 1

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This is the method used.

1. Mix yeast with sugar solution in a flask.
2. Put the flask in a water bath at 35 °C.
3. After 10 minutes attach a gas syringe to the flask.
4. Record the volume of carbon dioxide collected every 5 minutes for 1 hour.

(d) What volume of carbon dioxide has been collected in the gas syringe in the figure above?

Volume of carbon dioxide = _____ cm^3

(1)

(e) Why did the student wait 10 minutes before attaching the gas syringe?

Tick (✓) **one** box.

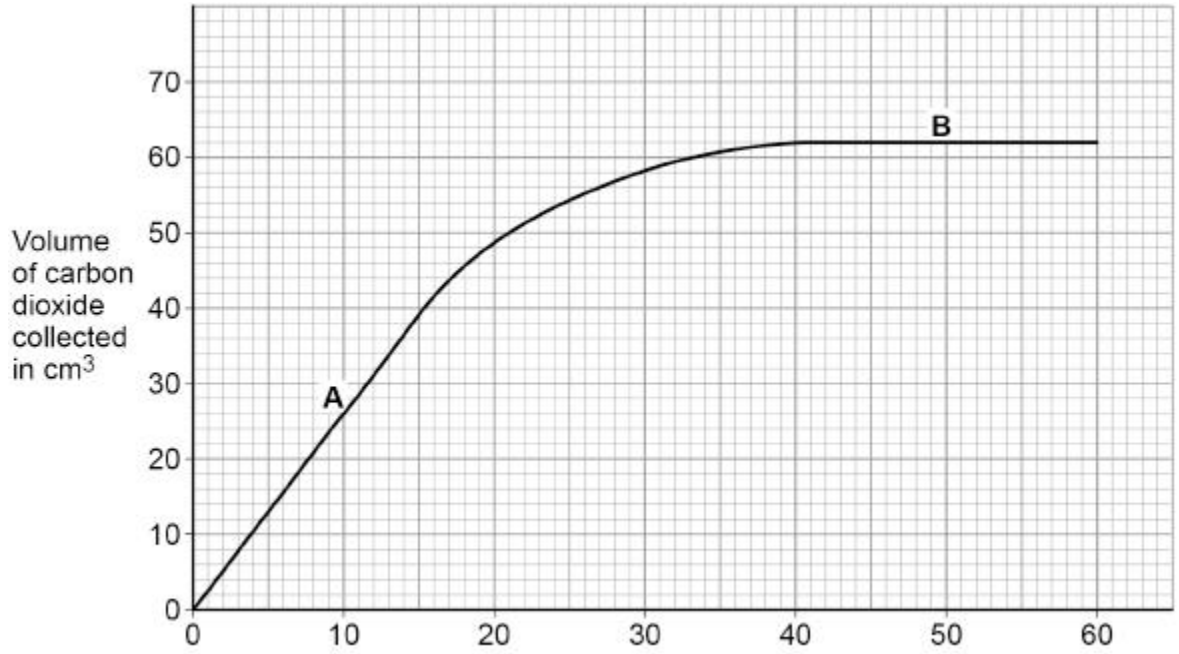
To allow time for the mixture to reach 35 °C	☐
To allow time for the sugar to dissolve	☐
To allow time to draw a results table	☐

(1)

Figure 2 shows the results.

Figure 2

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(f) **A** and **B** are different parts of the graph in **Figure 2**.

Draw **one** line from each part of the graph to the description of the reaction.

Part of the graph	Description of the reaction
	Carbon dioxide is **not** being produced
A	
	Carbon dioxide production is **fastest**
B	
	Carbon dioxide production is **slowing down**

(2)

The equation for fermentation is repeated here.

glucose → ethanol + carbon dioxide

(g) Suggest **one** reason why fermentation in the flask stopped.

_____

_____

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(1)

(h) Fermentation is controlled by enzymes.

The investigation was repeated at 2 °C and at 75 °C.

No carbon dioxide was produced at either of these temperatures.

Suggest why **no** carbon dioxide was produced at 2 °C or at 75 °C.

Reason at 2 °C _____

_____

Reason at 75 °C _____

_____

(2)

(i) Anaerobic respiration also happens in animal cells.

Complete the equation for anaerobic respiration in animal cells.

Choose answers from the box.

carbon dioxide	**ethanol**	**glucose**	**lactic acid**	**water**

_____ → _____

(2)

(Total 13 marks)

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Q2.

Being overweight can affect the health and life expectancy of a person.

(a) What is **one** lifestyle change a person could make to help them lose body mass?

Tick (✓) **one** box.

Drink more alcohol ☐

Eat less fatty food ☐

Stop smoking ☐

(1)

(b) Exercise has many health benefits.

Give **two** health benefits of regular exercise.

Do **not** refer to losing body mass in your answer.

1. _____

_____

2. _____

_____

(2)

During exercise, breathing rate increases to provide more oxygen for aerobic respiration.

(c) What is the equation for aerobic respiration?

Tick (✓) **one** box.

carbon dioxide + water → glucose + oxygen ☐

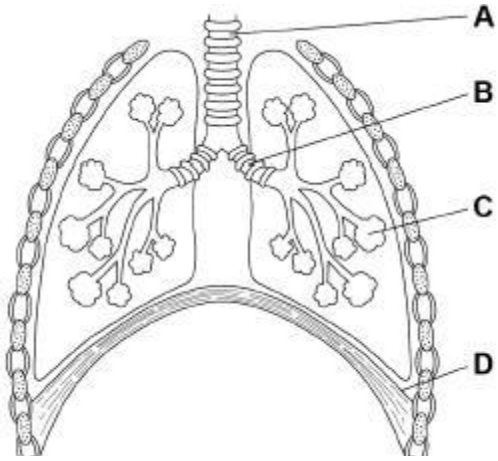
glucose + oxygen → carbon dioxide + water ☐

oxygen + water → glucose + carbon dioxide ☐

(1)

(d) The diagram below shows the human breathing system.

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Where does gas exchange take place?

Tick (✓) **one** box.

A ☐ **B** ☐ **C** ☐ **D** ☐

(1)

A scientist investigated the effect of exercise on the breathing rate of four people.

This is the method used.

1. Measure the resting breathing rate.
2. Exercise for 10 minutes.
3. Measure the breathing rate as soon as exercise stops.
4. Record the time taken for the breathing rate to return to the resting rate.

The table below shows the results.

Person	Resting breathing rate in breaths per minute	Breathing rate after exercise in breaths per minute	Increase in breathing rate in breaths per minute	Time for breathing rate to return to resting rate in minutes
A	12	45	33	5.5
B	10	28	18	4.0
C	11	35	24	6.5
D	13	52	39	10.0

(e) The scientist concluded that person **B** was the fittest.

Give **two** reasons that support the scientist's conclusion.

Use the table above.

1. _____

_____

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2. _____

_____

(2)

(f) Suggest **two** reasons why the scientist's conclusion may **not** be valid.

1. _____

_____

2. _____

_____

(2)

(g) Give **two** changes that happen in the body during aerobic exercise.

Do **not** refer to increased breathing rate in your answer.

1. _____

_____

2. _____

_____

(2)

(h) Muscles respire anaerobically during vigorous exercise.

Complete the sentences.

Choose answers from the box.

amino acids	**carbon dioxide**	**glucose**
lactic acid	**oxygen**	

Muscles respire anaerobically if they do not have enough _____.

Anaerobic respiration of glucose produces _____.

(2)

(Total 13 marks)

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