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

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Name of the Student:_____
Max. Marks : 18 Marks **Time : 18 Minutes**

Q1.

Scientists estimate that about one third of cancers in the UK may be linked to obesity.

Name **two** diseases linked to obesity.

Do **not** give cancer as one of your answers.

1. _____

2. _____

(Total 2 marks)

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Q2.

The table shows the volume of blood flowing through different organs at three levels of exercise.

Organ(s)	Volume of blood flowing through organ(s) in cm^3 per minute		
	Light exercise	**Moderate exercise**	**Heavy exercise**
Gut	1 100	600	300
Kidneys	900	600	250
Brain	750	750	750
Heart muscles	350	750	1 000
Skeletal muscles	4 500	12 500	22 000
Skin	1 500	1 900	600
Other	400	500	100
Total	**9 500**	**17 600**	**25 000**

(a) (i) Which organ has a constant flow of blood through it?

_____

(1)

(ii) Which organ has the greatest reduction in the volume of blood supplied during heavy exercise compared with light exercise?

_____

(1)

(iii) What proportion of the blood flows through the heart muscle during heavy exercise?

_____

(1)

(b) The volume of blood flowing through the skeletal muscles increases greatly during exercise.

Give **two** ways in which the body brings about this increase.

1. _____

_____

2. _____

_____

(2)

(c) During exercise, the concentration of carbon dioxide in the blood increases.

Explain what causes this increase.

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(3)

(Total 8 marks)

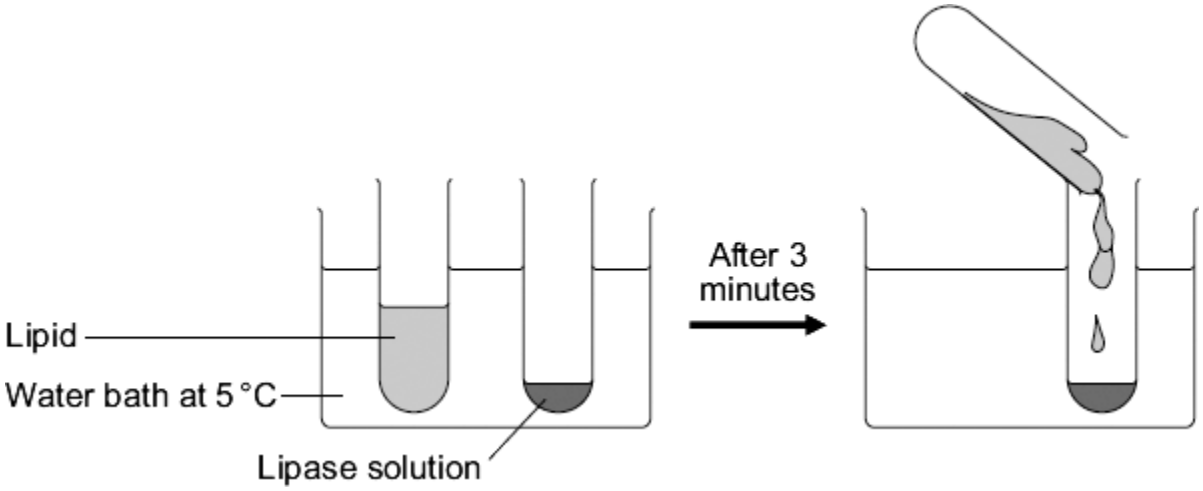
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Q3.

A group of students investigated the effect of temperature on the action of the enzyme lipase.

The students:

- put 1 cm^3 of lipase solution into a test tube
- put 5 cm^3 of lipid into a different test tube
- put both tubes in a water bath at 5 °C for 3 minutes
- mixed the lipid with the lipase solution.



Every five minutes the students tested a sample of the mixture for lipid, until no lipid remained. The students repeated the experiment at different temperatures.

(a) To make their investigation fair the students needed to control some variables.

Give **one** variable the students controlled in their investigation.

_____

(1)

(b) The tubes of lipase solution and lipid were kept separately in the water bath for 3 minutes before mixing. Why?

Tick (✓) **one** box.

So that the lipase broke down the lipid quickly ☐

So that the lipase and the lipid reached the right temperature ☐

To give enough time for the lipase to break down the lipid ☐

To give enough time for the water bath to heat up ☐

(1)

The table shows the students' results.

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Temperature in C	Time taken until no lipid remained in minutes
5	40
20	15
35	5
50	30
95	lipid still there after 120 minutes

(c) Describe the effect on the breakdown of the lipid of increasing the temperature from 5 °C to 50 °C.

_____

_____

_____

_____

(2)

(d) Suggest **two** ways in which the students could have improved their investigation.

Use information from the students' method and the results table to help you.

1. _____

_____

_____

2. _____

_____

_____

(2)

(e) (i) The lipase did **not** break down the lipid at 95 °C.

Why?

_____

_____

(1)

(ii) At 35 °C the lipase broke down the lipid after 5 minutes.

What new substances will be in the tube?

Draw a ring around **one** answer.

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amino acids **fatty acids and glycerol** **sugars**

(1)

(Total 8 marks)

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