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

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Exam Preparation and Free Resources

Name of the Student:_____
Max. Marks : 28 Marks **Time : 28 Minutes**

Q1.

Angina is a condition many people get as coronary heart disease (CHD) develops.

Angina can cause chest pain and tiredness.

People with angina are sometimes treated with a drug called GTN.

GTN widens the coronary arteries.

Explain:

- the causes and symptoms of angina
- how GTN reduces the symptoms of angina.

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(Total 6 marks)

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Q2.

The circulatory system includes the heart, blood vessels and blood.

(a) The heart pumps the blood in a double circulatory system.

Describe what is meant by a 'double circulatory system'.

_____

_____

_____

_____

(2)

(b) Heart rate is controlled by a group of cells that act as a pacemaker.

Where in the heart is the pacemaker found?

_____

(1)

(c) Which blood vessel carries deoxygenated blood?

Tick (✓) **one** box.

Aorta	☐
Coronary artery	☐
Pulmonary artery	☐
Pulmonary vein	☐

(1)

The structure of a vein is different from the structure of an artery.

One difference is that veins have valves but arteries do **not** have valves.

(d) Explain why veins have valves, but arteries do not.

_____

_____

_____

_____

(2)

(e) Describe **two** structural differences between a vein and an artery.

Do **not** refer to valves in your answer.

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1 _____

_____

_____

2 _____

_____

_____

(2)

(Total 8 marks)

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Q3.

Amylase is an enzyme that digests starch in the digestive system.

(a) Explain why starch has to be digested.

_____

_____

_____

_____

(2)

A student used a colorimeter to investigate the rate of starch digestion.

A colorimeter measures the percentage of light passing through a liquid.

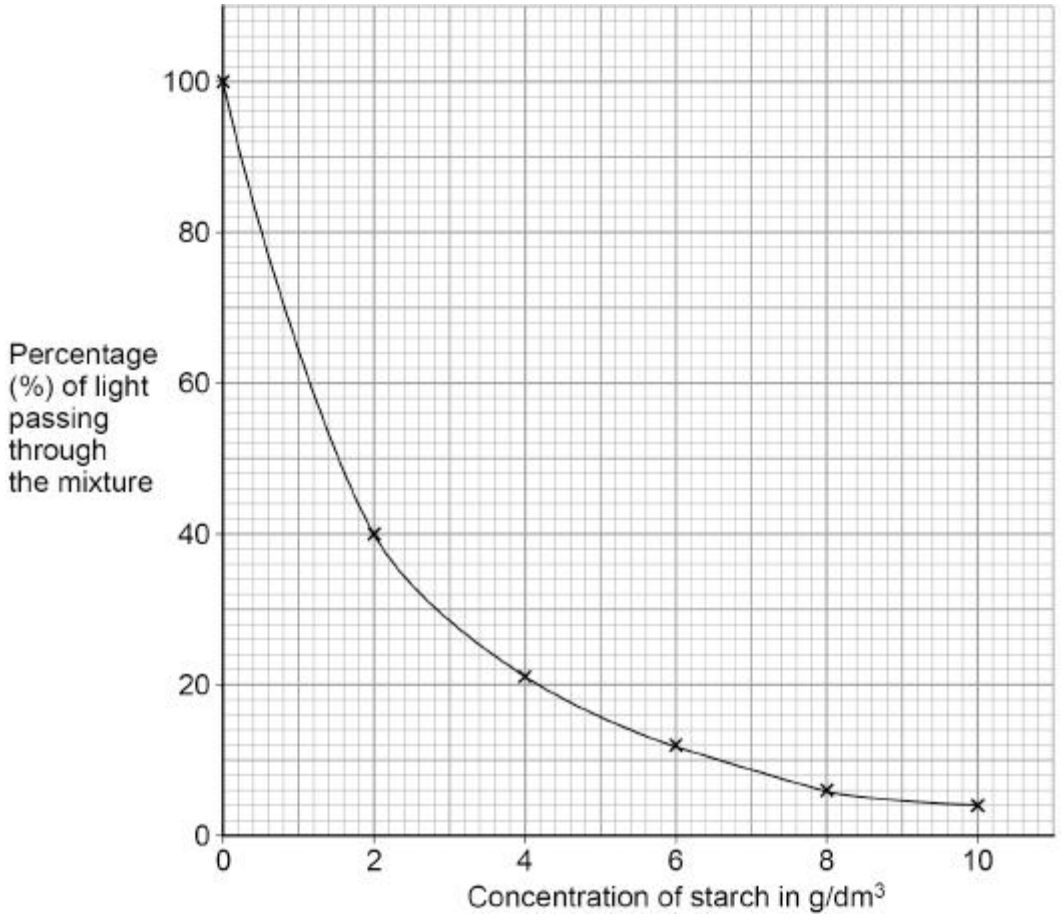
The darker the colour of the liquid, the less light passes through.

The student:

- mixed 1 cm^3 of starch suspension with 10 cm^3 of iodine solution
- measured the percentage of light passing through the mixture
- repeated with different concentrations of starch suspension.

Figure 1 shows the results.

Figure 1



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(b) Suggest what liquid was used for the test with 0 g/dm^3 starch concentration.

_____

_____

(1)

(c) Explain the change in the percentage of light passing through the different concentrations of starch suspension in iodine solution.

Use **Figure 1**.

_____

_____

_____

_____

_____

_____

(3)

The student then investigated the rate of starch digestion using amylase.

This is the method used.

1. Put 10 cm^3 of starch suspension into a test tube.

2. Put 5 cm^3 of amylase solution into a separate test tube.

3. Put both test tubes into a water bath at 37 °C for 10 minutes.

4. Mix the contents of both test tubes together in a beaker.

5. Put the beaker into the water bath.

6. Remove 1 cm^3 of the mixture and add it to 10 cm^3 of iodine solution.

7. Measure the percentage of light passing through the liquid.

8. Repeat steps 6 and 7 every minute for 5 minutes.

(d) The starch suspension and the amylase solution were kept in the water bath for 10 minutes before being mixed together.

Give the reason why.

_____

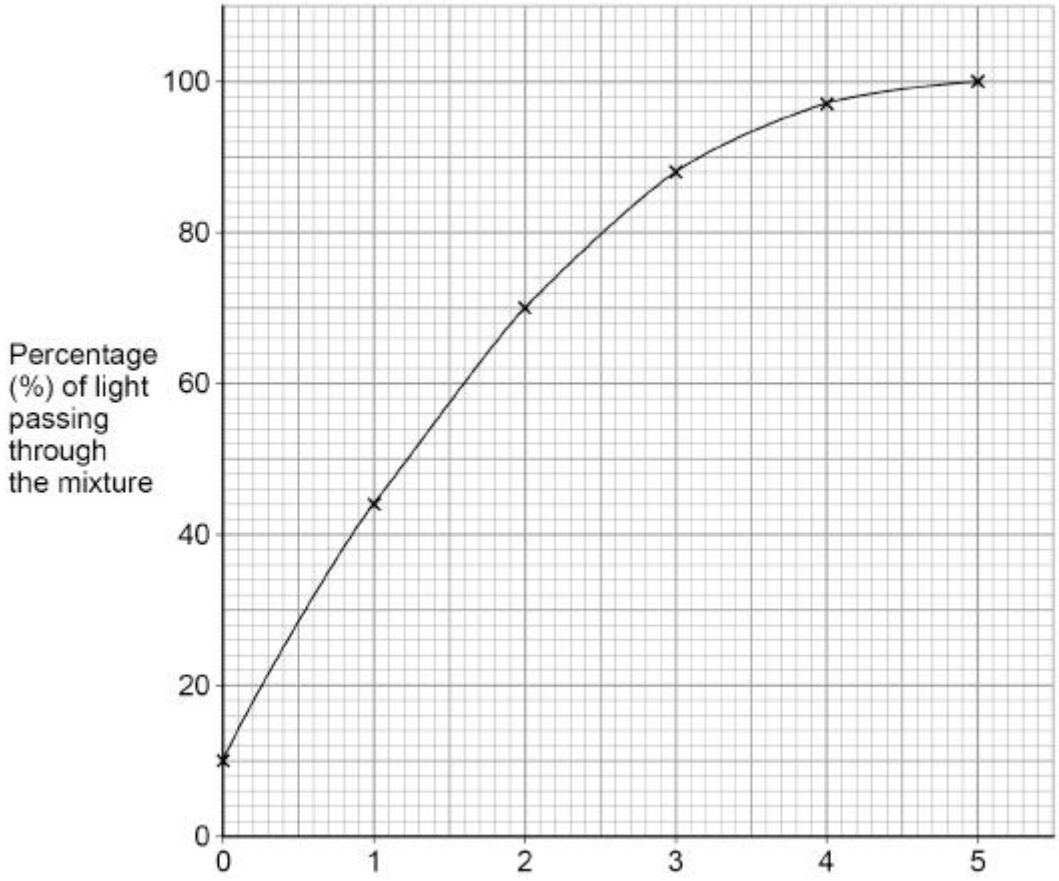
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(1)

Figure 2 shows the results.

Figure 2

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(e) The concentration of starch at 3 minutes was 0.3 g/dm^3.

Calculate the mean rate of starch digestion for the first 3 minutes.

Use **Figure 1** and **Figure 2**.

Mean rate = _____ g/dm^3 per minute

(4)

(f) The investigation was carried out at pH 7

Explain how the results would be different if the investigation was carried out at pH 1

Use **Figure 2**.

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_____

(3)

(Total 14 marks)

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