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

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Name of the Student:_____
Max. Marks : 23 Marks **Time : 23 Minutes**

Q1.

Bile is produced in the liver, stored in the gall bladder, then released into the small intestine.

(a) Explain how bile affects the digestion of food in the small intestine.

_____

_____

_____

_____

(2)

(b) Bile contains bile pigments and cholesterol.

If the diet contains too much cholesterol, some of it may form 'gallstones' in the bile.

These gallstones may prevent bile from moving out of the gall bladder into the small intestine.

Bilirubin is a yellow-brown bile pigment. This pigment is produced by the liver from haemoglobin released by broken-down red blood cells.

Suggest how gallstones may produce the following symptoms:

(i) very pale faeces

_____

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_____

(2)

(ii) jaundice (a yellow tinge to the skin).

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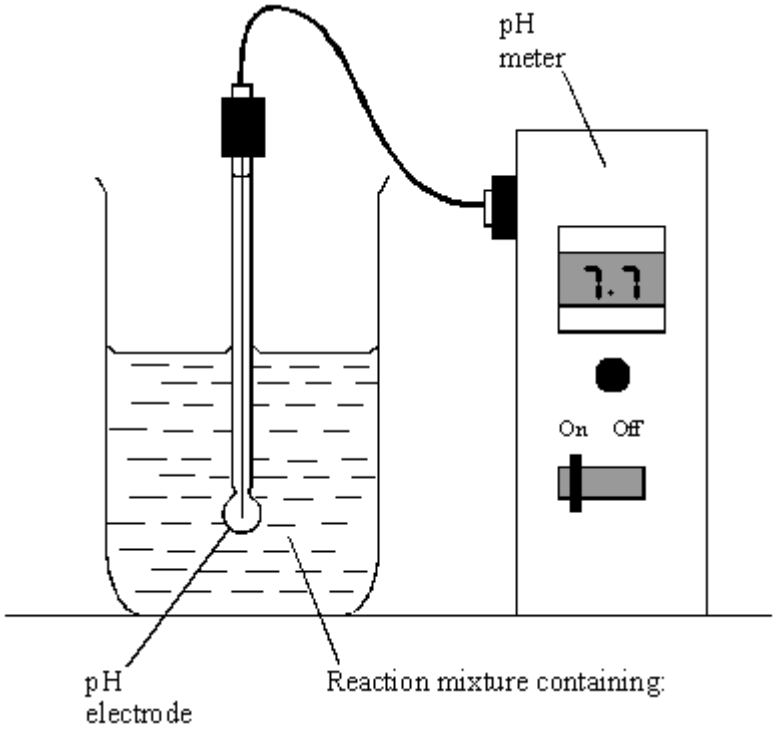
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(2)
(Total 6 marks)

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Q2.

The diagram shows the apparatus used to investigate the digestion of milk fat by an enzyme. The reaction mixture contained milk, sodium carbonate solution (an alkali) and the enzyme. In Experiment **1**, bile was also added. In Experiment **2**, an equal volume of water replaced the bile. In each experiment, the pH was recorded at 2-minute intervals.



Either:	**Experiment 1**	**or:**	**Experiment 2**
	milk (contains fat) sodium carbonate solution bile enzyme		milk (contains fat) sodium carbonate solution water enzyme

The results of the two experiments are given in the table.

Time in minutes	**pH**	
	Experiment 1: with bile	**Experiment 2: no bile**
0	9.0	9.0
2	8.8	9.0
4	8.7	9.0
6	8.1	8.8
8	7.7	8.6
10	7.6	8.2

(a) Milk fat is a type of lipid. Give the name of an enzyme which catalyses the breakdown of lipids.

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_____

(1)

(b) What was produced in each experiment to cause the fall in pH?

_____

(1)

(c) (i) For Experiment **1**, calculate the average rate of fall in pH per minute, between 4 minutes and 8 minutes. Show clearly how you work out your final answer.

_____

_____

_____

_____ pH units per minute

(2)

(ii) Why was the fall in pH faster when bile was present?

_____

_____

(1)

(Total 5 marks)

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Q3.

A dog runs across the road in front of a car. The driver slams her foot on the brakes.

(i) Explain how the nervous system brings about this response.

_____

_____

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(4)

(ii) Explain why alcohol consumption would affect the driver's response.

_____

_____

(1)

(Total 5 marks)

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Q4.

(a) A food contains protein. Describe, in as much detail as you can, what happens to this protein after the food is swallowed.

(4)

(b) The table shows the activity of lipase on fat in three different conditions.

CONDITION	UNITS OF LIPASE ACTIVITY PER MINUTE
Lipase + acid solution	3.3
Lipase + weak alkaline solution	15.3
Lipase + bile	14.5

Explain, as fully as you can, the results shown in the table.

(3)

(Total 7 marks)

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