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

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Name of the Student:_____
Max. Marks : 29 Marks **Time : 29 Minutes**

Q1.

The black pigment in human skin and eyes is called melanin. Production of melanin is controlled by a single pair of genes. A person who is homozygous for a recessive allele of the gene has no melanin and is said to be albino.

(a) A man is albino. His wife is heterozygous for the melanin-producing allele.

(i) The fertilised egg cell produced by the couple divides to form two cells.

Name the process of cell division involved.

_____

(1)

(ii) How many albino genes would there be in each of these two cells?

_____

Explain you answer.

_____

_____

_____

(3)

(b) (i) Albino people are more likely than people with melanin to suffer mutations that cause cancer in their skin. Suggest why albino people have an increased chance of mutation in their skin cells.

_____

_____

(1)

(ii) Sometimes, mutation in skin cells leads to cancers in other organs, such as the liver.

Explain how.

_____

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(2)
(Total 7 marks)

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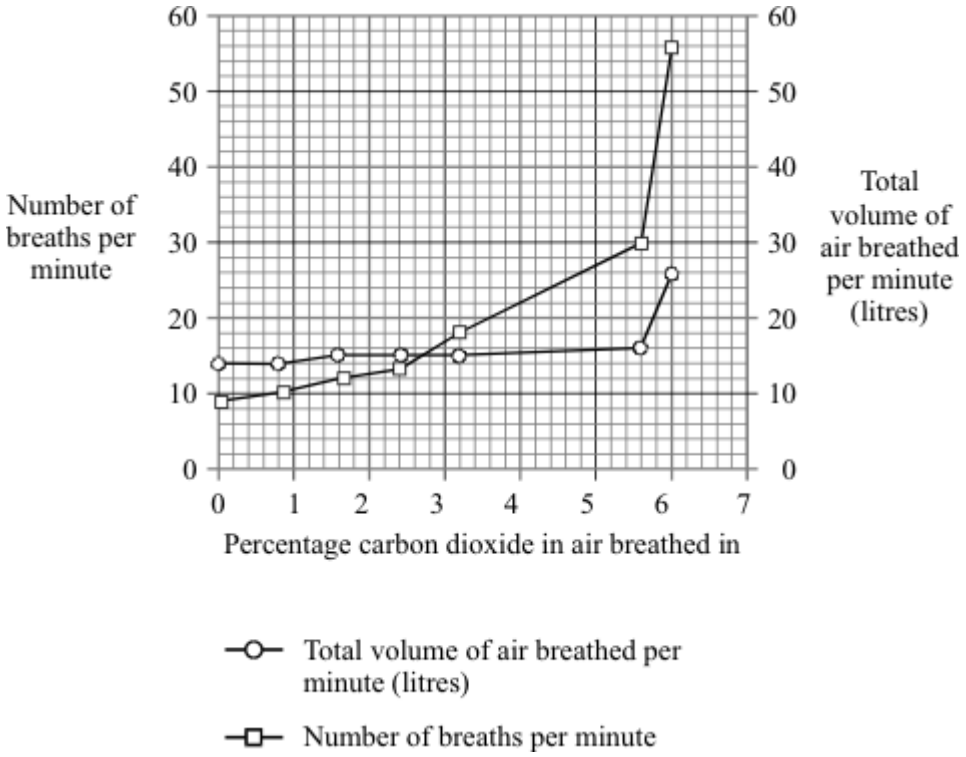
Q2.

The graph shows the effect of increasing the carbon dioxide content of the inhaled air on:

- the number of breaths per minute;
- the total volume of air breathed per minute.



(i) Describe the effect of increasing the percentage of carbon dioxide in the inhaled air on the total volume of air breathed.

_____

_____

_____

_____

(2)

(ii) Suggest why the total volume of inhaled air is **not** directly proportional to the number of breaths per minute.

_____

_____

_____

_____

(2)

(Total 4 marks)

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Q3.

Describe the roles of the liver and the pancreas in the digestion of fats.

_____

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(Total 5 marks)

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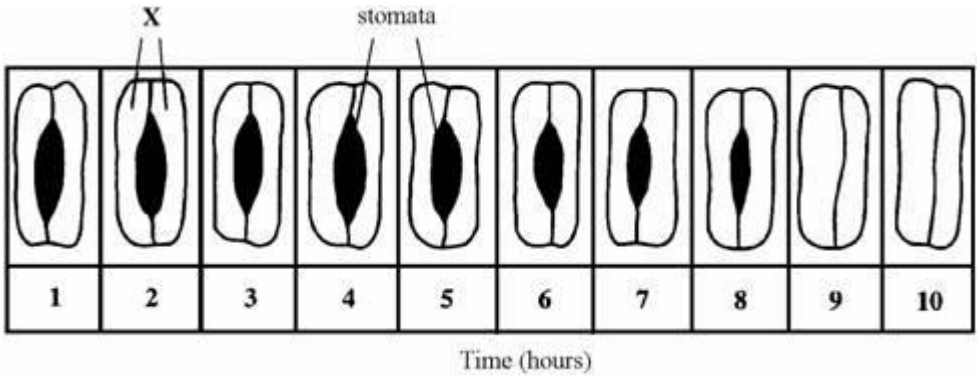
Q4.

A potted plant was left in a hot, brightly lit room for ten hours. The plant was not watered during this period. The drawings show how the mean width of stomata changed over the ten hour period.



(a) Why do plants need stomata?

_____

(1)

(b) Name the cells labelled **X** on the drawing.

_____

(1)

(c) The width of the stomata changed over the ten hour period.
Explain the advantage to the plant of this change.

_____

_____

_____

_____

(2)

(Total 4 marks)

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Q5.

Diagram 1 shows the main features of human blood circulation.

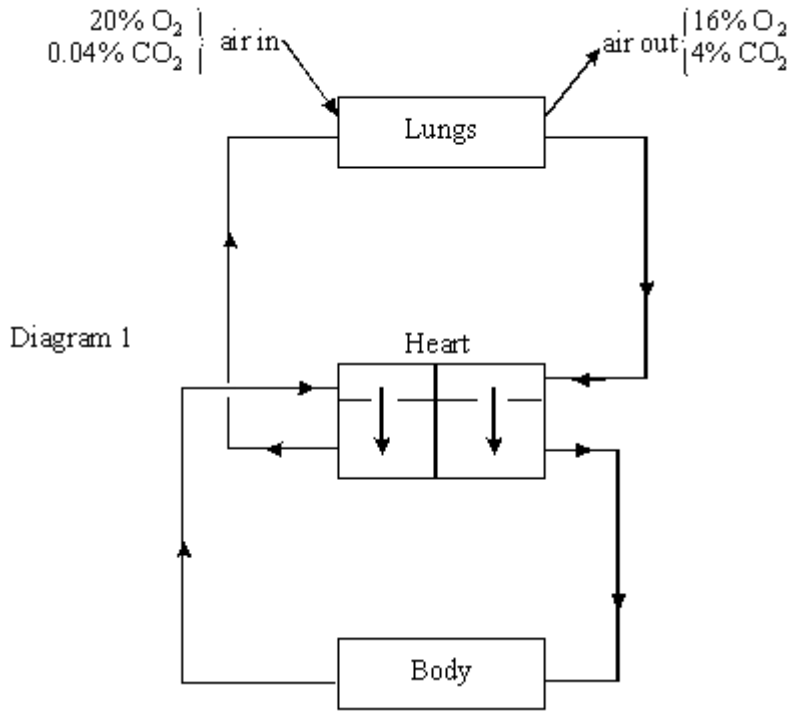

Diagram 1

(a) What changes in the composition of **blood** occur in the lungs?

_____

_____

_____

(2)

Diagram 2 shows how the circulation of blood changes between rest and exercise.

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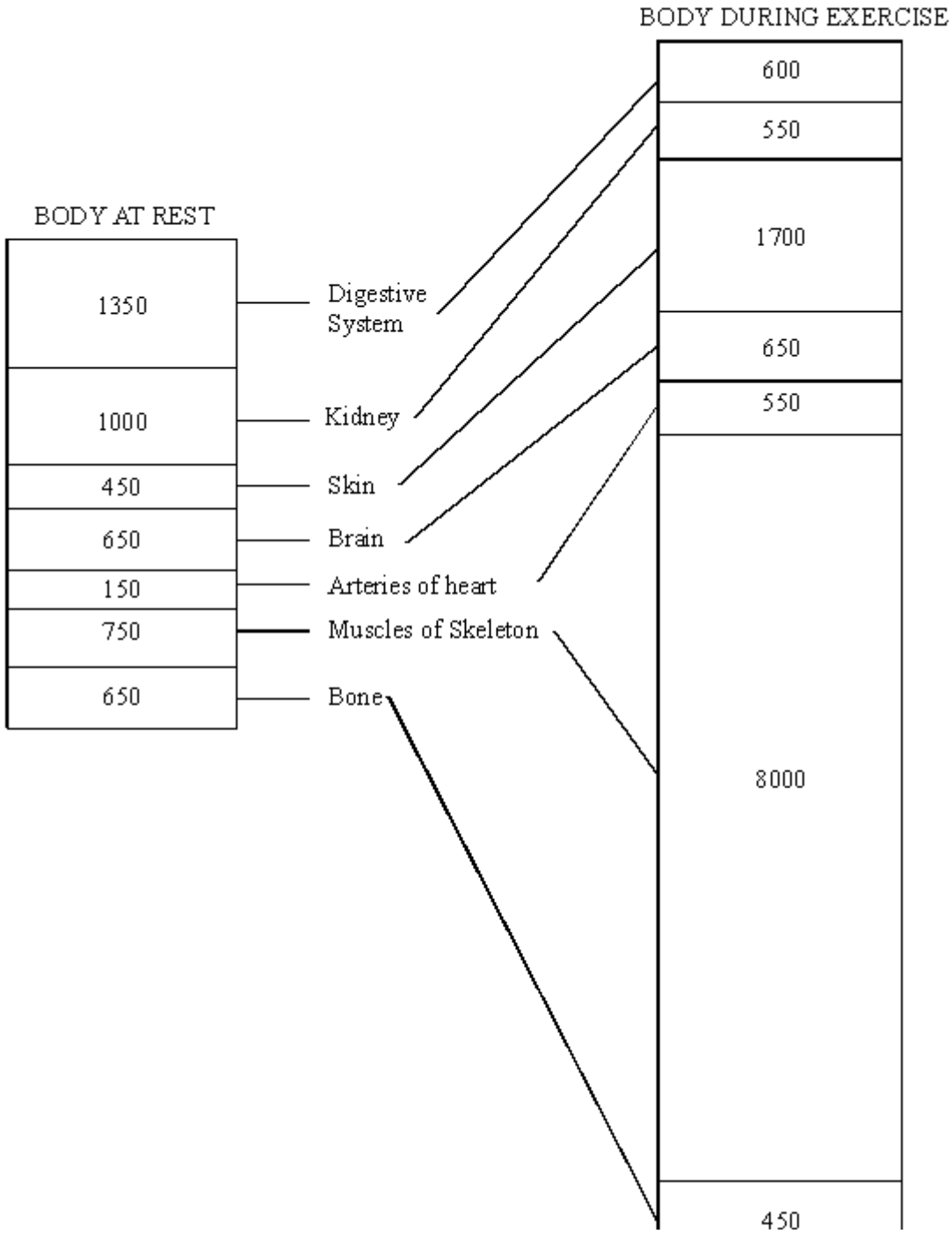

Rate of supply of blood to parts of the body (cm^3/min) when at rest and during exercise.

(b) (i) Use the information from Diagram 2 to complete the table below.

Parts of the body to be included:

Digestive System

Skin

Brain

Arteries of Heart

Muscles of Skeleton

Bone

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HOW BLOOD SUPPLY CHANGES DURING EXERCISE		
reduced	unchanged	increased
Kidney		

(4)

(ii) What happens to the rate of supply of blood to the whole body with exercise?

(You should make full use of the information provided.)

_____

_____

_____

(3)

(Total 9 marks)

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