Respiration – 2021 IGCSE 0610

1. March/2021/Paper_12/No.23

What are the products of anaerobic respiration in yeast?

A alcohol + carbon dioxide

B alcohol + oxygen

C lactic acid + carbon dioxide

D lactic acid + oxygen

2. March/2021/Paper_22/No.23

After running a fast race a student had pains in their leg muscles.

The pain was caused by the build-up of a product of anaerobic respiration.

Which product caused the pain?

A carbon dioxide

B ethanol

C lactic acid

D water

3. March/2021/Paper_32/No.6

(a) The box on the left contains the term 'Anaerobic respiration'.

The boxes on the right show some sentence endings.

Match the box on the left to **three** boxes on the right to make three correct sentences.

Anaerobic respiration	involves the action of enzymes.
	is required for diffusion to occur.
	produces lactic acid in humans.
	releases less energy per glucose molecule than aerobic respiration.
	requires carbon dioxide.
	requires oxygen in humans.

[3]

(b) State the word equation for anaerobic respiration in yeast.

..... [2]

(c) Respiration is one of the characteristics of living things.

State the names of **three other** characteristics of living things.

1 .....

2 .....

3 .....

[3]

[Total: 8]

4. June/2021/Paper_11/No.24

What is produced by anaerobic respiration in humans?

	alcohol	carbon dioxide	lactic acid
A	✗	✓	✓
B	✓	✓	✗
C	✗	✗	✓
D	✓	✗	✗

key

✓ = yes

✗ = no

5. June/2021/Paper_12/No.23

What is the link between muscle contraction, protein synthesis and the maintenance of a constant body temperature?

A They are controlled by hormones.

B They are examples of homeostasis.

C They require energy.

D They require carbon dioxide.

6. June/2021/Paper_13/No.23

Which statement applies to respiration?

A It involves enzymes.

B Energy is absorbed.

C It only takes place in animal cells.

D Oxygen is released.

7. June/2021/Paper_13/No.24

The table shows some products of respiration.

Which row shows the products of anaerobic respiration in muscles?

	alcohol	carbon dioxide	lactic acid	water
A	✓	✓	✗	✗
B	✗	✓	✗	✓
C	✗	✗	✓	✗
D	✗	✗	✓	✓

key

✓ = yes

✗ = no

8. June/2021/Paper_21/No.23

The list shows some processes that take place in a human body.

1 production of new red blood cells

2 transmission of nerve impulses from the eyes to the brain

3 diffusion of gases into and out of the lungs

Which processes use energy released by respiration?

A 1 and 2 only **B** 1 and 3 only **C** 2 and 3 only **D** 1, 2 and 3

9. June/2021/Paper_21/No.24

Which equation is aerobic respiration?

A $6CO_2 + 6H_2O \rightarrow 6C_6H_{12}O_6 + 6O_2$

B $6O_2 + 6CO_2 \rightarrow 6H_2O + C_6H_{12}O_6$

C $C_6H_{12}O_6 + 6O_2 \rightarrow 6CO_2 + 6H_2O$

D $C_6H_{12}O_6 \rightarrow 2C_2H_5OH + 2CO_2$

10. June/2021/Paper_22/No.24

After vigorous exercise, an athlete continues to breathe deeply during the recovery period.

During this recovery period the oxygen debt is removed.

Which reaction is used to remove the oxygen debt?

A aerobic respiration of lactic acid in the liver

B aerobic respiration of lactic acid in the muscles

C anaerobic respiration of lactic acid in the liver

D anaerobic respiration of lactic acid in the muscles

11. June/2021/Paper_23/No.23

Which statement applies to respiration?

A It involves enzymes.

B Energy is absorbed.

C It only takes place in animal cells.

D Oxygen is released.

12. June/2021/Paper_23/No.24

Which statement about respiration is correct?

A Deep breathing after exercise reduces an oxygen debt.

B Lactic acid produced by aerobic respiration causes an oxygen debt.

C The energy in ethanol molecules is released by muscle cells.

D The energy in lactic acid is released by anaerobic respiration.

13. June/2021/Paper_31/No.4

(a) The box on the left contains the words 'Aerobic respiration'.

The boxes on the right show some sentence endings.

Draw lines to make **three** correct sentences about aerobic respiration.

Aerobic respiration	involves the action of enzymes.
	occurs in animals only.
	produces water.
	requires carbon dioxide.
	releases less energy than anaerobic respiration.
	requires oxygen.

[3]

(b) One effect of the release of the hormone adrenaline is to increase blood glucose concentration. This allows more aerobic respiration to occur.

(i) Place ticks (✓) in the correct boxes to show other effects of the release of adrenaline on the body.

change in the genotype	
decreased breathing rate	
development of lung cancer	
increased pulse rate	
widened pupils	

[2]

(ii) State the name of the gland that releases adrenaline.

..... [1]

(iii) State how adrenaline is transported to its target organs.

.....

..... [1]

(c) State the names of **two** hormones involved in the development of secondary sexual characteristics in humans.

1 .....

2 .....

[2]

(d) State the name of the organ that secretes the hormone insulin.

..... [1]

(e) Organs, tissues and specialised cells are structures in the body that perform a particular function.

Write these parts of the body in order of size from smallest to largest.

cell **DNA molecule** **organ** **organ system** **tissue**

smallest .....

.....

.....

.....

largest .....

[2]

[Total: 12]