Respiration – 2022 November IGCSE 0610 Biology

1. Nov/2022/Paper_11/No.23

Which row shows processes that all use energy from respiration?

	diffusion	cell division	osmosis	muscle contraction	passage of nerve impulses	active transport
A	✗	✓	✓	✓	✓	✓
B	✓	✗	✓	✗	✗	✗
C	✓	✗	✗	✓	✗	✗
D	✗	✓	✗	✓	✓	✓

key

✓ = uses energy from respiration

✗ = does not use energy from respiration

2. Nov/2022/Paper_11/No.24

What is the word equation for anaerobic respiration in yeast?

A glucose → alcohol + carbon dioxide

B glucose → alcohol

C glucose → lactic acid + carbon dioxide

D glucose → lactic acid

3. Nov/2022/Paper_12/No.24

Which row shows the products of anaerobic respiration in humans and yeast?

	products in humans	products in yeast
A	lactic acid only	alcohol only
B	lactic acid only	alcohol and carbon dioxide
C	lactic acid and carbon dioxide	alcohol only
D	lactic acid and carbon dioxide	alcohol and carbon dioxide

4. Nov/2022/Paper_13/No.23

Which actions use energy released from respiration?

1 muscle contraction

2 protein synthesis

3 cell division

4 transmitting nerve impulses

A 1, 2, 3 and 4

B 1, 2 and 4 only

C 2 and 3 only

D 3 and 4 only

5. Nov/2022/Paper_13/No.24

What is the word equation for anaerobic respiration in muscle cells?

A glucose + oxygen → lactic acid

B glucose → carbon dioxide

C glucose + carbon dioxide → alcohol

D glucose → lactic acid

6. Nov/2022/Paper_21/No.21

Which row shows processes that all use energy from respiration?

	diffusion	cell division	osmosis	muscle contraction	passage of nerve impulses	active transport
A	✗	✓	✓	✓	✓	✓
B	✓	✗	✓	✗	✗	✗
C	✓	✗	✗	✓	✗	✗
D	✗	✓	✗	✓	✓	✓

key

✓ = uses energy from respiration

✗ = does not use energy from respiration

7. Nov/2022/Paper_21/No.22

What is the word equation for anaerobic respiration in yeast?

A glucose → alcohol + carbon dioxide

B glucose → alcohol

C glucose → lactic acid + carbon dioxide

D glucose → lactic acid

8. Nov/2022/Paper_22/No.21

Which process could continue without energy from respiration?

A active transport

B growth

C osmosis

D protein synthesis

9. Nov/2022/Paper_23/No.21

Which actions use energy released from respiration?

1 muscle contraction

2 protein synthesis

3 cell division

4 transmitting nerve impulses

A 1, 2, 3 and 4

B 1, 2 and 4 only

C 2 and 3 only

D 3 and 4 only

10. Nov/2022/Paper_23/No.22

What is the word equation for anaerobic respiration in muscle cells?

A glucose + oxygen → lactic acid

B glucose → carbon dioxide

C glucose + carbon dioxide → alcohol

D glucose → lactic acid

11. Nov/2022/Paper_31/No.5(a)

(a) **(i)** The box on the left shows the beginning of a sentence.

The boxes on the right show some sentence endings.

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

	involves enzymes.
	only occurs in animals.
	produces carbon dioxide and water.
Aerobic respiration	
	produces lactic acid.
	requires chlorophyll.
	uses glucose and oxygen.

[3]

(ii) Complete the sentence by circling the correct word or phrase shown **in bold**.

Aerobic respiration releases **less / more / the same amount of** energy compared with anaerobic respiration.

[1]

(iii) Describe how respiration in yeast is used in industry to produce useful products for humans.

.....

.....

.....

.....

.....

.....

..... [3]

12. Nov/2022/Paper_32/No.6(a, b)

Respiration occurs in all living organisms.

(a) State the name of the product of **anaerobic** respiration in humans.

..... [1]

(b) **(i)** Table 6.1 shows the energy released during the aerobic and anaerobic respiration of one molecule of glucose in humans.

Table 6.1

type of respiration	energy released / kJ
aerobic	2872
anaerobic	118

Calculate the difference in energy released between aerobic and anaerobic respiration.

..... kJ [1]

(ii) State the word equation for **aerobic** respiration.

..... [2]