Practice Question Set For GCSE
Subject : Biology
Paper-1 Topic: B4 Bioenergetics

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

Mark Schemes

Q1.

(a) falls

1

from 0.25

1

to 0.19

but by 0.06 gains two marks

if <u>neither</u> figure given, accept steadily / at constant rate for one mark
accept mass of oxygen inversely related / negative correlation to height above sea level for 2 marks

1

(b) (i) 1.8

accept correct readings from graph for (5 and 6.8) if subtraction incorrect for one mark

allow one mark for correct subtraction from incorrect readings

2

(ii) (blood can carry) <u>more</u> oxygen

1

[6]

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Q2.

(a) respiration

reject start respiring / respire only at night

1

no photosynthesis because no light

1

(b) photosynthesis rate greater than respiration rate

1

reject no respiration / photosynthesis only

photosynthesis since light

1

[4]

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Q3.

(i) 6 in both spaces

do not credit if any formula has been altered

1

(ii) glucose

*allow fructose **or** dextrose*

1

(iii) mitochondria

accept organelles

1

[3]

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Q4.

(a) 6 6 6

all required

accept a '6n 6 n n 6n' version of the balanced equation provided it is correct in every detail

1

(b) any **two** of

- (presence of) chlorophyll **or** (amount of) chloroplasts

  accept green leaves (or other green parts)

- (sufficient) light (intensity)

- (light) of **a** suitable wavelength

  any light other than green light

  do not credit Sun's energy or sunshine or Sun

2

(c) **guard cells**

any **two** of

* control by osmosis
* the movement of gases

*accept movement of carbon dioxide **or** oxygen **or** water vapour beware movement of CO_2 out*

accept a diagram or description

* through the stoma

2

palisade cells

any **two** of

* near the upper surface
* contain (a great) many **or** more chloroplasts
* (so) contain the most chlorophyll

2

(d) any three of

* for respiration
* conversion to (insoluble) starch

or to food store **or** to (other)carbohydrates
* (conversion to) sucrose **or** to food store **or** to (other) carbohydrates

or polysaccharides

*do not credit just to grow **or** live*
***or** survive*
accept conversion to food store
***or** to (other) carbohydrates once only*

* (conversion to) lipids **or** fats **or** oils
* (conversion to) amino acids **or** (plant) proteins **or** auxins **or** (plant) hormones **or** enzymes

3

[10]

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