

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

Name of the Student: _____

Max. Marks : 22 Marks

Time : 22 Minutes

Mark Schemes

Q1.

(a) (i) brain 1

(ii) skin 1

(iii) 1/25 **or** 4% **or** 0.04 **or** 1 in 25 **or** 1:25 **or** 1 out of 25

allow $\frac{1000}{25000}$ 1

(b) any **two** from:

- increased / high heart rate / pulse rate
*do **not** allow pumps more blood unqualified*
- dilation / widening of arteries / arterioles (to skeletal muscles)
accept vasodilation unqualified
*do **not** accept reference to veins / capillaries*

or

less blood flow to other organs

- increased stroke volume / described 2

(c) *ignore references to breathing*

more respiration / description

or

more energy required **or** to provide more energy 1

respiration / process described → CO₂

*do **not** accept anaerobic respiration* 1

CO₂ diffuses into blood 1

[8]

Q2.

(a) the starch is stored for later use.

1

(b) (i) any **two** from:

*do **not** accept temperature-apply list principle*

ignore reference to time

- carbon dioxide (concentration)
- light intensity
*allow **one** mark for light if neither intensity or colour are awarded*
- light colour / wavelength
- pH
- size / amount plant
- same / species / type plant
allow 'the plant'
- amount of water in the tube
ignore amount of water alone

2

(ii) number / amount of bubbles **or** amount of gas / oxygen

allow volume of bubbles (together)

ignore 'the bubbles' unqualified

1

(relevant reference to) time / named time interval

allow how long it bubbles for

*do **not** accept time bubbles start / stop*

ignore speed / rate bubbles

ignore instruments

*do **not** accept other factors eg temperature*

*accept how many bubbles per minute for **2** marks*

1

(c) (i) temperature

allow heat / °C / cold

1

(ii) carbon dioxide / CO₂

CO₂ / CO² / Co₂ / Co² / co₂ / co²

*do **not** accept CO / 2CO*

1

[7]

Q3.

- (a) (i) water / H₂O
allow hydrogen oxide
1
- oxygen / O₂ / O
allow upper and lower case symbols and superscripts
answers must be in this order
1
- (ii) respiration in the plant
allow clear indication of correct response
1
- (b) light (no light) / light intensity
ignore references to the card / covered / uncovered
1
- chlorophyll (no chlorophyll) / chloroplast
*allow leaf colour **or** both green **and** white given*
1
- (c) (i) no light (received) **or** it's dark
allow no photosynthesis
*do **not** allow little light / photosynthesis*
ignore sun
apply list principle for other factors
1
- (ii) no chlorophyll / chloroplasts (present)
allow no / little photosynthesis
*allow white **or** not green **or** little chlorophyll / few chloroplasts*
apply list principle for other factors
1

[7]