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

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Name of the Student:_____
Max. Marks : 22 Marks **Time : 22 Minutes**

Mark Schemes

Q1.

(a)

Structure	**Organ**	**Organ system**	**Tissue**
Stomach	✓		
Cells lining the stomach			✓
Mouth, oesophagus, stomach, liver, pancreas, small and large intestine		✓	

all 3 correct = 2 marks
2 correct = 1 mark
1 or 0 correct = 0 marks

2

(b) (i) diffusion

allow phonetic spelling

1

(ii) glucose

1

(iii) mitochondria

1

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Q2.

(a) (i) LHS = water

accept H_2O

*do **not** accept H^2O / H2O*

1

RHS = oxygen

accept O_2

*do **not** accept O / O^2 / O2*

1

(ii) light / sunlight

ignore solar / sun / sunshine

*do **not** allow thermal / heat*

1

(iii) chloroplasts

allow chlorophyll

1

(b) (i) 20

1

(ii) any **one** from:

- light (intensity)
- temperature.

1

(c) (i) To increase the rate of growth of the tomato plants

1

(ii) Because it would cost more money than using 0.08%

1

Because it would not increase the rate of photosynthesis of the tomato plants any further

1

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Q3.

(a) chlorophyll is needed for photosynthesis

1

light is needed for photosynthesis

1

(b) increases

1

levels off / reaches a maximum / remains constant / stays the same / plateaus

*do **not** allow stops / stationary / peaks*

allow stops increasing

1

goes up to / reaches a maximum / levels off at (a rate of) 200 (arbitrary units)
or
levels off at 225 – 240 (light units)

ignore references to other numerical values

1

(c) (i) higher light intensity does not increase rate of photosynthesis

accept the graph stays level (above this value)

allow stops increasing

allow the rate of photosynthesis stays the same (above this value)

1

(ii) any **two** from:

- carbon dioxide (concentration)
- temperature / heat
- (amount of) chlorophyll / chloroplasts

allow water

allow ions / nutrients

ignore ref to surface area of the leaf

2

[8]

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