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

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Name of the Student:_____
Max. Marks : 19 Marks **Time : 19 Minutes**

Mark Schemes

Q1.

(a) *idea*
O_2 increases
CO_2 decreases
for 1 mark each

2

(b) (i)

<u>reduced</u>	<u>unchanged</u>	<u>increased</u>
digestive system	brain	skin
bone		muscles
		heart and arteries

All (6) correct gains 4
5 correct gains 3
4 correct gains 2
2/3 correct gains 1

Correct wording not needed if unambiguous. No mark if organ repeated.

4

(ii) more/higher/quicker/faster
gains 1 mark

but
7500 more/from 5,000 to 12,500 more
gains 2 marks

but
7500 cm^3/min more
gains 3 marks

or 2½ times more

3

[9]

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Q2.

(a) • appropriate scales (> halfway along each axis)

• all points correctly plotted to better than ½ a square

• lines carefully drawn

(*allow* point to point in this case)

N.B.

• no mark available for labelling axes

• *allow* either orientation

for 1 mark each

3

(b) (i) *ideas that*

• energy transferred faster in 100m race

(*not* more energy transferred)

• carbon dioxide produced faster during 1500m race

for 1 mark each

(*allow* more carbon dioxide produced)

correct reference to twice / half as fast in either / both cases

for 1 further mark

3

(ii) • respiration during 100m race (mainly) anaerobic

• respiration during 1500m race aerobic

• aerobic respiration produces carbon dioxide

• anaerobic respiration doesn't produce carbon dioxide / produces lactic acid

any two for 1 mark each

2

(c) *ideas that*

• there is an oxygen debt / more than normal oxygen needed

• lactic acid needs to be oxidised / combined with oxygen

for 1 mark each

2

[10]

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