

Name of the Student: _____

Max. Marks : 19 Marks

Time : 19 Minutes

Mark Schemes

Q1.

(a) (i) 120 1

(ii) 11 760 **or**
correct answer from candidate's answer to (a)(i)
correct answer with or without working
if answer incorrect
120 × 98 **or**
candidate's answer to (a)(i) × corresponding SV gains 1 mark
if candidate uses dotted line / might have used dotted line(bod) in (a)(i)
and (a)(ii) no marks for (a)(i) but allow full ecf in (a)(ii) eg 140 × 88 =
12320 gains 2 marks 2

(b) trained athlete has higher stroke volume / more blood per beat 1

same volume blood expelled with fewer beats

or for same heart rate more blood is expelled 1

(c) increased aerobic respiration

or

decreased anaerobic respiration

allow correct equation for aerobic respiration

accept don't have to respire anaerobically 1

increased energy supply / need 1

less lactic acid formed

or to breakdown lactic acid **or** less O₂-debt 1

can do more work **or** can work harder or faster or longer

accept muscle contraction for work

or less fatigue / cramp / pain 1

[9]

Q2.

(a) (i) B

1

(ii) any **one** from:

- largest area of / most digestion (of lipid)
allow agar / jelly / mixture broken down / digested
*do **not** allow digestion of bacteria / lipase*
*ignore digestion **by** bacteria*
- largest clear area

1

(b) any **two** from:

- effect of pH / pH described
- effect of temperature
- effect on different types of lipid / fat
- cost **or** allergic reactions **or** effect on skin / fabrics / **or** environment **or** interaction with other chemicals in powder **or** shelf life

2

(c) enzymes / named enzyme denatured / destroyed
allow active site(of enzyme) altered

1

[5]

Q3.

(a) guard (cell)

ignore stoma / stomata

1

(b) Species A:

- stomata open in dark / at night **or** close in light / in day

1

- stomata closed during warm(est) period **or** open when cool(er)

1

- heat (energy) / warmth increases evaporation / transpiration
must give explicit link between heat and transpiration

1

- reduces water loss / evaporation / transpiration
ignore photosynthesis
allow converse points for species B

1

[5]