

Name of the Student: _____

Max. Marks : 21 Marks

Time : 21 Minutes

Mark Schemes

Q1.

(a) A

no mark – can be specified in reason part
if B given = no marks throughout
if unspecified plus two good reasons = 1 mark

high(er) pressure in A

allow opposite for B
do not accept 'zero pressure' for B

1

pulse / described in A

accept fluctuates / 'changes'
allow reference to beats / beating
ignore reference to artery pumping

1

(b) (i) 17

1

(ii) 68

accept correct answer from candidate's (b)(i) $\times$ 4

1

(c) (i) oxygen / oxygenated blood

allow adrenaline
ignore air

1

glucose / sugar

extra wrong answer cancels eg
sucrose / starch / glycogen / glucagons / water
allow fructose as an alternative to glucose
ignore energy
ignore food

1

(ii) carbon dioxide / CO₂ / lactic acid

allow CO₂ / CO²
ignore water

1

[7]

Q2.

(a) any **three** from:

- rose rapidly (during exercise) / use of approximate figures
- then more slowly (during exercise)
accept rate (of increase) slows down
- to max 126 / at 5 minutes / end of exercise
- rapid fall (during recovery) **or** use of approximate numbers
- then less rapid fall / use of approximate numbers
- returned to resting rate (60 bpm) by 11 minutes

3

(b) arteries dilate / widen

accept muscle in wall relaxes

1

(c)

any **four** from:

- muscles using more energy **or** more energy released
- muscles respire faster
- supply more oxygen
- supply more glucose / sugar
- remove more CO₂
- remove lactic acid
- remove heat / to cool

do **not** accept energy produced

allow for aerobic respiration
or to prevent anaerobic respiration

'more' needed ONCE
only for full marks

4

[8]

Q3.

(a) diet **or** description

1

(b) exercise
or group meetings
or same number of kilocalories per day
or time
or group size

1

(c) any **two** from: eg

- scientists didn't observe amount of exercise
or volunteers cheated on exercise(*)
()if no marks awarded for first 2 bullet points allow don't stick to plan **or** cheated for 1 mark*
- scientists didn't observe the amount of food
or volunteers cheated on food(*)
- mass of subjects not controlled
- age of subjects not controlled
- gender of subjects not controlled
- occupation of subjects not controlled
- different proportions of subjects completed course
allow not all completed course
- low number of subjects
ignore not repeated

2

(d) any **two** from: (yes)

- low carbohydrate / Group 1 / people / they lost more mass
*ignore more people lost weight
allow greater change in mass*
- low carbohydrate / Group 1 / people / they lost more body fat
*ignore more people lost body fat
allow greater change in body fat*
- low carbohydrate diet / Group 1 / people / they resulted in more HDL
*allow better HDL to LDL balance
allow greater change in HDL*

2

[6]