

Name of the Student: _____

Max. Marks : 18 Marks

Time : 18 Minutes

Mark Schemes

Q1.

any **two** from:

- arthritis
ignore descriptions
- diabetes
- high blood pressure
- heart / blood vessel disease
ignore cholesterol

[2]

Q2.

(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

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

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]

Q3.

(a) any **one** from:

*ignore reference to recording results every 5 minutes **or** concentrations of lipid / lipase*

- (same) volume / amount / 1 cm³ lipase
allow amount of solution
- (same) volume / amount / 5 cm³ lipid
allow keep same volumes in the test tubes
- mixed after 3 minutes / same time before mixing
*do **not** accept temperature*

1

(b) so that the lipase and the lipid reached the right temperature

1

(c) any **two** from

ignore explanations

- decrease in time **or** faster (breakdown)
- then increase in time **or** then slower (breakdown)
- fastest / least time / optimum at 35°C

2

(d) any **two** from:

ignore 'test at more temperatures' unqualified

- test more regularly eg test every minute
any interval < 5min
- test at smaller temperature intervals
any value <15°C
allow test more temperatures in the range
- test between 50 (°C) and 95 (°C)
any value in range, eg test at 70
- repeat at same temperatures
or repeat the investigation
or compare results with others
*allow do **it** again*

2

(e) (i) (lipase / it) denatured / destroyed / changed shape

allow damaged / deformed

*do **not** accept killed*

ignore broken (down)

1

(ii) fatty acids and glycerol

1

[8]