

Name of the Student: _____

Max. Marks : 22 Marks

Time : 22 Minutes

Mark Schemes

Q1.

- (a) (i) water loss
extra substance(s) cancel
if transpiration stream described max 1 mark
1
- as a vapour / by evaporation*
ignore stomata
1
- (ii) stomata / stoma / guard cells
ignore epidermis
1
- (b) (i) 2.8
correct answer with or without working gains 2 marks
if answer incorrect:
allow 1 mark for $(8.6 - 0.2) \div 3$ or $8.4 \div 3$
2
- (ii) warmer at 16:00 / gets cooler
or reverse argument for 19.00
1
- faster diffusion / evaporation*
accept sun setting as equivalent to heat or light marking points
- or**
- lighter at 16:00 / gets darker (1)*
if no environmental factor still allow reason mark
- stomata open / more open (1)*
eg 'stomata close later in the day'
- or**
- (more) windy at 16:00 / gets less windy (1)*
- removal of (more) water vapour / steeper gradient (1)*
- or**
- air is less humid at 16.00 (1)*

allow rain at 19.00

faster diffusion or steeper gradient (1)

1

[7]

Q2.

- (a) don't kill pathogens / bacteria / viruses / microbes / microorganisms

allow don't contain antibiotics

ignore antibodies / attack / fight

allow only treat symptoms / pain

ignore kill disease / germs

1

- (b) any **two** from:

- age

- gender

- extent / severity of pain

or how long had pain before trial

- type of pain / illness / site of pain

accept 'the pain' for 1 mark, if neither extent or type given

ignore pain threshold

- (body) mass / weight / height

allow body size / physique

- other medical issues / drugs taken / health / fitness

- ethnicity

2

- (c) (i) 75

ignore calculations / %

1

- (ii) faster pain relief / decrease

allow pain relief sooner

or *it works quicker*

or *more pain relief at start / in first $1\frac{3}{4}$ hours*

1

- (iii) decrease of pain higher / more

ignore more effective unless qualified by time $> 1\frac{3}{4}$ hours
allow effect lasts longer

1

decrease of pain is longer lasting

1

- (d) any **three** from:

ignore yes or no

(Yes because)

- rapid pain relief (from A)

- long lasting pain relief (from B)

- and it costs less
- the sum of the pain relief (from A + B) is greater (than X)

(No because)

- drug X gives more pain relief
- (A + B / they) might interact with each other
- could result in overdose
- could be more / new side effects
*if neither points gained
allow (more) dangerous*

3

[10]

Q3.

(a) protease

allow trypsin / peptidase

*do **not** allow pepsin*

1

carbohydrase / amylase

*do **not** allow sucrase / maltase / lactase*

1

(b) no lipase produced / found

1

in stomach / mouth / before small intestine

OR

accept lipase only produced / found (1)

in small intestine / pancreas (1)

*if no other mark is awarded lipid is not broken down in the stomach **or**
lipid is digested in small intestine gains **1** mark*

1

(c) enzymes only work in solution / when dissolved

or

because enzyme / lipase / it is dry

*allow enzymes only work in presence of water **or** enzymes do not work
when dry*

ignore other physical conditions

1

[5]