

Name of the Student: _____

Max. Marks : 17 Marks

Time : 17 Minutes

Mark Schemes

Q1.

any **four** from

molecules / ions

do not credit mineral salts

move(d) through / across the cell

wall / membrane

against (a / the) concentration

gradient

by a series of chemical

reactions

(because) diffusion cannot occur

energy (required)

(supplied by) respiration

oxygen required for respiration (to occur)

[4]

Q2.

- (a) mutation

for 1 mark

1

- (b) fall,
idea that resistant beetles more likely to survive to breed,
∴ their offspring more likely to appear in the next generation

for 1 mark each

3

- (c) inbreeding between resistant brothers and sister,
will produce some individuals with 2 copies of the resistance allele,
if 2 of these individuals breed all their offspring will be resistant

for 1 mark each

3

[7]

Q3.

one mark for each of the following
comparisons to a maximum of **6**

*candidates **must** make a clear comparison*

meiosis	mitosis
sexual	asexual
gametes	growth
ovary or testes or gonads	all other cells
half number of chromosomes	same number of chromosomes
haploid or 23 chromosomes	diploid or 46 chromosomes
reassortment or variation possible or not identical	no reassortment or no variation or identical
4 cells produced	2 cells produced
2 divisions	1 division

[6]