

Name of the Student: _____

Max. Marks : 20 Marks

Time : 20 Minutes

Mark Schemes

Q1.

- (a) diatoms photosynthesise **or** are producers 1

the amount of growth depends upon the energy **or** light they get

accept more light means more growth

or they multiply more in more light

do not accept they need light

1

- (b) (i) eaten by small fish
do not accept eaten by fish

1

minerals **or** nitrate **or** phosphates
or nutrients **or** food supply used up
or reduced

1

- (ii) any **two** from
gets colder
light decreases
end of their life span **or** die
accept more being eaten than being formed

eaten by small fish
do not accept a decrease in nitrates
or phosphates

1

- (c) increased minerals **or** nitrates **or** phosphates 1

any **one** from

due to death **or** decay of diatoms **or** fish
do not accept death of large fish

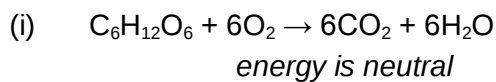
1

influx of minerals in an ocean current
*do not accept extraneous pollution **or***
dumping by a ship

1

[8]

Q2.



1

formulae all correct
with no omissions / deletions

correctly balanced
*credit 1 mark if the answer is the exact
reverse of an incorrect answer for (a)*

1

(ii) and **three** from

take up of (soluble) substances / ions against the concentration gradient
***or** when the concentration (of the
substance / ions) is greater inside the
cell / cytoplasm than outside it*

through the (semi-permeable) (cell) membrane energy from mitochondria
***or** energy from respiration
not just energy*

3

[5]

Q3.

(a) + light = + photosynthesis
+ light = + photosynthesis to a limit
limit depends on temp/CO₂ levels
+ CO₂ = + photosynthesis
+ temp = + photosynthesis
each for 1 mark

5

(b) need to raise optimum levels
when one other raised
to get max/economic yield
each for 1 mark

2

[7]