

Name of the Student: _____

Max. Marks : 19 Marks

Time : 19 Minutes

Mark Schemes

Q1.		
(a)	A = meiosis	
	<i>accept 'mieosis'</i>	
	<i>do not accept 'miosis'</i>	1
	B = mitosis	
	<i>do not accept 'meitosis' etc</i>	1
(b)	fertilisation allow conception	1
(c)	(i) 23	1
	(ii) 46	1
		[5]

Q2.

- (i) in diffusion: material moves high to low concentration

1

here: concentration in cells > concentration in water **or**
uptake is against the concentration gradient **or** by diffusion ions would move out

1

- (ii) active transport / active uptake

1

[3]

Q3.

any **four** from:

- cells used to treat diseases do not go on to produce a baby
- produces identical cells for research
- cells would not be rejected
- allow cells can form different types of cells
- (immature) egg contains only genetic information / DNA / genes / chromosomes from mother **or** there is only one parent
- asexual / no mixing of genetic material / no sperm involved / no fertilisation **or** chemical causes development
- baby is a clone
- reference to ethical / moral / religious issues
 - allow ethically wrong*
 - NB cloning is illegal gains 2 marks**
 - ignore unnatural*
- risk of damage to the baby
 - in correct context*

[4]

Q4.

(a) No

no mark
if yes max 1 for correct statement

diffusion is down the concentration gradient
accept by diffusion ions would leave the root

1

to enter must go up / against the concentration gradient
or concentration higher in the root
or concentration lower in the soil

1

(b) (i) 0.9 **or** 3.25

for correct answer with or without working
*if answer incorrect 1.3 **or** their rate – 0.4 gains 1 mark*
***or** 130 – 40 **or** 90 gains 1 mark*

2

(ii) (uptake) by active transport

1

requires energy

more energy from aerobic respiration

1

or

more energy when oxygen is present

1

[7]