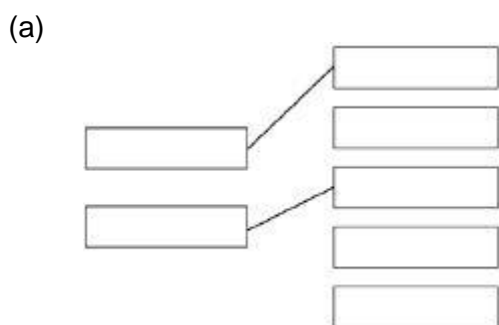


Q1.

- (a) nucleus 1
- (b) gene(s) 1
allow allele(s)
- (c) copying of chromosomes 1
- (d) mitochondria 1
- (e) 60 – 45 1
or
120 – 105
- 15 (minutes) 1
an answer of 15 (minutes) scores 2 marks
- (f) C 1
- (g) 8 1
- (h) to repair tissues 1

[9]

Q2.



*additional line from a level of organisation
negates the mark for that level of organisation*

- (b) palisade mesophyll 1
- (c) $\frac{50}{8}$ 1

6 / 6.25 / 6.3 (micrometres)

1

an answer of 6 / 6.25 / 6.3 scores 2 marks

- (d) they have no chloroplasts / chlorophyll
allow they are underground
allow they don't get (access to) light
allow (because) photosynthesis needs light
allow they can't absorb light
ignore 'sun'
ignore 'it is dark'
- (e) differentiation
- (f) to protect endangered plants from extinction
- (g) plants can be produced quickly
- (h) any **one** from:
- glucose / sugars / starch
 - amino acids / protein
 - hormones
allow named hormones e.g. auxin
 - ions / minerals
allow magnesium / nitrate
 - vitamins
allow named vitamins e.g. vitamin B
 - water
allow H₂O / H₂O
ignore oxygen / carbon dioxide / agar / nutrients / fertiliser

1

1

1

1

1

[10]

Q3.

(a)

	statement is true for		
	mitosis only	meiosis only	both mitosis and meiosis
all cells produced are genetically identical	✓		
in humans, at the end of cell division each cell contains 23 chromosomes		✓	

involves DNA replication			✓
--------------------------	--	--	---

3 correct = 2 marks

2 correct = 1 mark

0 or 1 correct = 0 marks

2

(b) any **two** from:

ignore references to one parent only

- many offspring produced
- takes less time
allow asexual is faster
- (more) energy efficient
- genetically identical offspring
allow offspring are clones
- successful traits propagated / maintained / passed on (due to offspring being genetically identical)
- no transfer of gametes or seed dispersal
allow no vulnerable embryo stage
allow no need for animals
- not wasteful of flowers / pollen / seeds
- colonisation of local area
must imply local area

2

(c) genetic variation (in offspring)

1

(so) better adapted survive

allow reference to natural selection or survival of the fittest

1

(and) colonise new areas by seed dispersal

or

can escape adverse event in original area (by living in new area)

must imply new area

1

many offspring **so** higher probability some will survive

1

allow bluebell example described (max 3 if not bluebell)

[8]

Q4.

(a) a fungus

1

(b) **Level 3 (5-6 marks):**

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Relevant points (reasons / causes) are identified, given in detail and logically linked to form a clear account.

Level 2 (3-4 marks):

Relevant points (reasons / causes) are identified, and there are attempts at logical linking. The resulting account is not fully clear.

Level 1 (1-2 marks):

Points are identified and stated simply, but their relevance is not clear and there is no attempt at logical linking.

Level 0

No relevant content

Indicative content

	defence	description of defence
animals	skin	sebum / oils to kill microbes dead layer difficult to penetrate
	nose	hairs keep out dust and microbes
	trachea / bronchi	mucus traps microbes cilia moves mucus
	stomach	(hydrochloric) acid kills bacteria
	white blood cells	produces antibodies produces antitoxins engulf microbes / phagocytosis
plants	cell wall	tough / difficult to penetrate
	waxy cuticle	tough / difficult to penetrate
	dead cells / bark	fall off, taking pathogens with them
	production of antibacterial chemicals	kill bacteria
fungi	antibiotic production	kill bacteria

(c) any **three** from:

- sterilise agar (before use)
- sterilise (Petri) dish before use
- disinfect bench (before use)
- pass inoculating loop (through flame)
- secure lid with (adhesive) tape
- minimise exposure of agar / culture to air / lift and replace lid as quickly as possible

allow:

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- *dip loop into ethanol (after flaming)*
 - *keep the lid on the plate for as long as possible*
or
minimise exposure of agar to air
or
only tilt the lid off (rather than remove it)
 - *flame the neck of the bottle*
- 3
- (d) to prevent the growth of a harmful pathogen
- 1
- [11]**

Q5.

- (a) an undifferentiated / unspecialised cell
- 1
- that can differentiate / become / change into (many) other cell types
- 1
- (b) (malignant tumours) invade / spread to other tissues via the blood (benign don't)
- or**
- (malignant tumours) form secondary tumours in other organs
- ignore cancer unqualified*
- allow converse*
- allow metastasises*
- 1
- (c) mitosis
- correct spelling only*
- 1
- (d) glucose
- answers in any order*
- ignore sugar*
- 1
- protein / amino acids
- 1
- (e) no need to wait for a donor
- or**
- can be done immediately
- 1
- (so) no risk of rejection
- or**
- no need for immunosuppressant drugs
- if no other marks awarded, allow for 1 mark idea of ethics surrounding the use of tissue from another / dead person*
- 1
- (f) stent opens up the trachea
- 1
- allowing air to flow through

or
allowing patient to breathe

1

(g) **Level 3 (5-6 marks):**

A judgement, strongly linked and logically supported by a sufficient range of correct reasons, is given.

Level 2 (3-4 marks):

Some logically linked reasons are given. There may also be a simple judgement.

Level 1 (1-2 marks):

Relevant points are made. They are not logically linked.

Level 0

No relevant content

Indicative content

embryos advantages

- can create many embryos in a lab
- painless technique
- can treat many diseases / stem cells are pluripotent / can become any type of cell (whereas bone marrow can treat a limited number)

embryos disadvantages

- *harm / death to embryo*
- *embryo rights / embryo cannot consent*
- *unreliable technique / may not work*

bone marrow advantages

- no ethical issues / patient can give permission
- can treat **some** diseases
- procedure is (relatively) safe / doesn't kill donor
- tried and tested / reliable technique
- patients recover quickly from procedure

bone marrow disadvantages

- *risk of infection from procedure*
- *can only treat a few diseases*
- *procedure can be painful*

both procedures advantage

can treat the disease / problem

both procedures disadvantages

- *risk of transfer of viral infection*
- *some stem cells can grow out of control / become cancerous*

[16]

Q6.

- (a) white blood cells have the same DNA / genes / chromosomes

or

have the gene for GH

allow have all the genes



allow all body cells (except RBCs) have all of the genes

1

- (b) enzyme has specifically-shaped active site

1

the 2 antibiotic resistance genes have different (sequence of) bases

1

only Tetracycline-resistance gene fits (active site of) enzyme

or

only Tetracycline-resistance gene is complementary to (active site of) enzyme

1

- (c)

Ampicillin	Tetracycline
✓	✗
✗	✗
✓	✓

1 mark for each correct row

if no other mark, allow 1 mark for one correct column

1

1

1

- (d) clone produced by asexual reproduction
allow by 'mitosis'

1

all DNA / all genes are copied

allow GH gene copied

allow plasmid copied

1

every cell receives a copy

or

receives every gene

or

receives GH gene

or

receives plasmid

or

genetically-identical cells

1

[10]

Q7.

- (a) nucleus labelled correctly

1

cell membrane labelled correctly

1

- (b) mitosis

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- (c) electron (microscope) 1
- (d) higher magnification 1
- (e) 45 (mm) 1
- 45 / 250 **or** 0.18 (mm)
allow ecf 1
- 180 (μm) 1
- allow 180 (μm) with no working shown for 3 marks*
- (f) 0.2 μm 1

[9]

Q8.

- (a) to kill virus
or
to prevent virus spreading 1
- (b) take (stem) cells from meristem
or
tissue culture
allow take cuttings 1
- (c) use Benedict's solution 1
- glucoses turns solution blue to orange 1

- (d) **Level 2 (3–4 marks):**
A detailed and coherent explanation is provided. The student makes logical links between clearly identified, relevant points that explain why plants with TMV have stunted growth.

Level 1 (1–2 marks):

Simple statements are made, but not precisely. The logic is unclear.

0 marks:

No relevant content.

Indicative content

- less photosynthesis because of lack of chlorophyll
- therefore less glucose made
- so
- less energy released for growth



- because glucose is needed for respiration and / or
- therefore less amino acids / proteins / cellulose for growth
- because glucose is needed for making amino acids / proteins / cellulose

4

[8]**Q9.**(a) **C**

1

(b) cytoplasm **and** cell membrane dividing
accept cytokinesis for 1 mark

1

to form two identical daughter cells

1

(c) stage 4

1

only one cell seen in this stage

1

(d) $(4 / 36) \times 16 \times 60$

1

107 / 106.7

1

110 (minutes)

allow 110 (minutes) with no working shown for 3 marks

1

(e) binary fission

do not accept mitosis

1

(f) shortage of nutrients / oxygen

1

so cells die

or

death rate = rate of cell division

1

[11]**Q10.**

(a) testis / testes

allow testicle(s)

1

(b) (i) **B** = 13.2
C = 6.6
E = 3.3



- all 3 correct = 2 marks*
2 or 1 correct = 1 mark
*If no marks awarded allow ecf for C **and** E based on answer to B*
ie C = $\frac{1}{2}$ B and E = $\frac{1}{2}$ C for one mark
- (ii) 6.6
allow twice answer for cell E in part bi
- (iii) mitosis
correct spelling only
- (c) (i) any **two** from:
 - cells that are able to divide
 - undifferentiated cells / not specialised
 - can become other types of cells / tissues **or** become specialised / differentiated*allow pluripotent*
- (ii) 4-day embryo is a (potential) human life
or
destroying/damaging (potential) human life
allow cord would have been discarded anyway
ignore reference to miscarriage
allow cannot give consent
- (iii) perfect tissue match **or** hard to find suitable donors
allow same/matching antigens
allow no danger of rejection
allow no need to take immunosuppressant drugs (for life)
*ignore genetically identical **or** same DNA*
- (iv) stem cells have same faulty gene / allele / DNA / chromosomes
allow genetically identical
ignore cells have the same genetic disorder
- [10]**
- Q11.**
- (a) (i) fewer cows
- any **one** from:
 - less methane*do **not** allow CH₄*



- less CO₂ in the atmosphere because of less deforestation **or** less plants consumed.
*allow less CO₂ released into the atmosphere because less fuel used e.g. to heat cowsheds **or** to transport meat*
*do **not** allow CO²*

1

- (ii) any **two** from:
- could be mass produced to feed an increasing population
 - disease free meat
 - no / low fat
 - no harm to animals or less intensive farming
- allow (may be) suitable for vegetarians*
- antibiotic free meat
 - more land available for farming crops
- allow no energy loss along a food chain*

2

(b) fungus / Fusarium

1

with glucose (syrup)

1

in aerobic conditions **or** in presence of oxygen

ignore air

1

mycoprotein is harvested / purified

allow ammonia added (as source of nitrogen)

ignore stirring / mixing and temperature

1

[8]

Q12.

(a)

	Mitosis only	Meiosis only	Both mitosis and meiosis
How cells are replaced	✓		
How gametes are made		✓	
How a fertilised egg undergoes cell division	✓		
How copies of the genetic information are			✓



made			
How genetically identical cells are produced	✓		

*if more than one tick per row then no mark
ignore first row*

1
1
1
1

- (b) (i) (adult) bone marrow
accept (umbilical) cord blood, skin, amniotic fluid / membrane
- 1
- (ii) cells will not be rejected by the patient's body (if they have been produced by therapeutic cloning)
allow easier to obtain linked to embryo stem cells
or
(embryo stem cells) can develop into many different types of cells
allow doesn't need an operation linked to bone marrow
or
(embryo stem cells) not yet differentiated / specialised or undifferentiated
accept embryo cells are pluripotent
- 1

[6]

Q13.

- (a) **A** = nucleus
allow phonetic spelling
- 1
- B** = (cell) membrane
- 1
- (b) for repair / growth **or** to replace cells
ignore new cells / skin
- 1
- (c) (i) embryos
- 1
- (ii) paralysis
- 1

[5]

Q14.

- (a) (i) fertilisation
- 1
- (ii) in sequence:

accept 1 next to gene, 2 next to chromosome and 3 next to nucleus in box

- 1 gene
- 2 chromosome
- 3 nucleus

allow 1 mark for smallest **or** largest in correct position

2

(iii) DNA

1

(b) (i) On diagram:

tick drawn next to **X** and / or **Y** from Parent 1

tick(s) must be totally outside grid squares

allow ticks around "parent"

extra ticks elsewhere cancel

1

(ii) 0.5 / $\frac{1}{2}$ / 50% / 1:1 / 50:50 / 1 in 2

allow 2/4 / 2 in 4 / 2 out of 4 / 'even(s)' / 'fifty – fifty'

*do **not** allow 1:2 or '50 / 50' or '50 – 50'*

1

2 (out of 4) boxes are **XX**

or

half of the sperm contain an **X**-chromosome

*allow **XY** is male and 2 (out of 4) boxes are **XY***

1

[7]

Q15.

(a) (i) allele expressed even when other allele present **or** expressed if just one copy of allele is present **or** expressed if heterozygous
if present other allele not expressed

1

(ii) 2 affected parents have unaffected child **or** 1 and 2 → **5 / 6**

or if recessive all of **1** and **2**'s children would have CADASIL

1

(iii) heterozygous – has unaffected children **or** because if homozygous all children would have CADASIL

1

(b) genetic diagram including:

accept alternative symbols, if defined

1

correct gametes:

D and d
and d (and d)

ignore 7 / 8 or male / female

1

derivation of offspring genotypes:

Dd Dd dd dd

*allow just **Dd dd** if ½-diagram*
allow ecf if correct for student's gametes

1

identification of **Dd** as CADASIL
or dd as unaffected
allow ecf if correct for student's gametes

1

correct probability: 0.5 / ½ / 1 in 2 / 50% / 1 : 1

1

(c) (i) stem cells can differentiate **or** are undifferentiated / unspecialised

1

can form blood vessel cells / brain cells

or

stem cells can divide

1

(ii) ethical argument - eg no risk of damage to embryo or adult can give consent for removal of cells **or** adult can re-grow skin

more ethical qualified

ignore religion unqualified

or

if from a relative then less chance of rejection **or** if from self then no chance of rejection

or

skin cells more accessible

1

[10]

Q16.

(a) (i)

Feature	Mitosis only	Meiosis only
Produces new cells during growth and repair	✓	
Produces gametes (sex cells)		✓
Produces genetically identical cells	✓	



- All 3 correct = **2** marks
- 2 correct = **1** mark
- 0 or 1 correct = **0** marks
- 2
- (ii) (a man) testis / testes
accept testicle(s)
- 1
- (a woman) ovary / ovaries
do not accept 'ova' / ovule
- 1
- (b) (i) XY / YX
or
X and Y
- 1
- (ii) XX
or
X and X or 2 X's
accept X
- 1
- (c) $\frac{1}{2}$ / 0.5 / 50% / 1:1 / 1 in 2
do not accept 1:2 / 50/50
allow 50:50
allow 2 in 4
- 1

[7]

Q17.

- (a) (i) DNA replication / copies of genetic material were made
'it' = a chromosome
allow chromosomes replicate / duplicate / are copied
ignore chromosomes divide / split / double
- 1
- (ii) one copy of each (chromosome / chromatid / strand) to each offspring cell
ignore ref. to gametes and fertilisation
- 1
- each offspring cell receives a complete set of / the same genetic material
allow 'so offspring (cells) are identical'
- 1
- (b) (i) meiosis
allow mieosis as the only alternative spelling
- 1
- (ii) Species A = 4 **and** Species B = 8



- (iii) sum of A + B from (b)(ii) e.g. 12 1
- (c) (i) similarities between chromosomes 1
or
similarities between flowers described
e.g. shape of petals / pattern on petals / colour / stamens
- can breed / can sexually reproduce 1
allow can reproduce with each other / they can produce offspring
- (ii) any **two** from: 1
- offspring contain 3 copies of each gene / of each chromosome / odd number of each of the chromosomes
 - some chromosomes unable to pair (in meiosis)
 - (viable) gametes not formed / some gametes with extra / too many genes / chromosomes
- or**
some gametes with missing genes / chromosomes 2

[10]**Q18.**

- (a) *comparisons are **not** required but should be credited*
accept a clear indication of the statement even if incomplete
- can develop into most other types of cell 1
- each cell divides every 30 minutes 1
- low chance of rejection by the patient's immune system 1
- (b) any **three** from:
- cheaper / only costs £1000
*this **must** be comparative*
ignore costs £1000
 - can collect many (stem) cells
 - adults give permission for their own bone marrow to be collected
comparisons are not required but should be credited
 - safe

Q19.

Marks should **not** be awarded for simply copying the information provided

A mark may be awarded for a comparison between treatments if the answer only involves copied information

any **four** from:

For all 4 marks to be awarded, there must be at least 1 pro and 1 con

embryo stem cells – examples of

pros

- can treat a wide variety / lots of diseases / problems
- many available / plentiful
- using them better than wasting them
- painless

cons

- (possible) harm / death to embryo
- (relatively) untested / unreliable / may not work
*allow long term effects not known
or may be more risky*
- embryo can't be 'asked' / 'embryo rights' idea

adult bone marrow stem cells – examples of

pros

- no ethical issues (in collection) **or** permission given
- quick recovery
- (relatively) safe
allow does not kill (donor) / low risk
- well tried / tested / know they work

cons

- operation hazards eg infection
- few types of cell / tissue produced **or** few diseases / problems treated
- painful so may deter donors



Conclusion to evaluation:

A reasoned conclusion from the evidence

1

[5]

Q20.

(a) (i) mitosis

correct spelling only

1

(ii) replicates / doubles / is copied / duplicates

accept cloned

ignore multiplied / reproduced

1

(b) fertilisation occurs / fusion (of gametes)

accept converse for asexual, eg none in asexual / just division in asexual

1

so leading to mixing of genetic information / genes / DNA / chromosomes

genes / DNA / chromosomes / genetic information comes

from 1 parent in asexual

ignore characteristics

1

one copy (of each allele / gene / chromosome) from each parent

or

gametes produced by meiosis

or

meiosis causes variation

meiosis must be spelt correctly

1

[5]

Q21.

(a) asexual

1

(b) mitosis

1

(c) genes

1

[3]

Q22.

(a) cell division / bacterium divides / multiplies / reproduces

allow asexual / mitosis

ignore growth



- (b) 18
- 18 000 / 18×10^3 / 1.8×10^4
do not accept 1.8 / 1.8^{04} / 1.8^4
allow ecf from wrong count
- (c) to kill / destroy other microorganisms / named type
or to prevent contamination
ignore germs / viruses
- to prevent other microorganisms affecting the results
or other microorganisms would be counted
allow to give accurate / reliable results
- (d) prevent growth of pathogens / disease-causing microorganisms / dangerous microorganisms
do not accept microorganisms become pathogenic
ignore germs / viruses
ignore general safety / biohazards / harmful products produced by bacteria
- (e) to improve the reliability of the investigation / check for anomalies
do not accept accuracy / precision / fairness / validity
ignore averages / repeatability / reproducibility

[7]

Q23.

- (a) any **one** from
- chromosomes in pairs
 - inherited one of each pair from each parent
 - one of each pair in egg **and** one of each pair in sperm
 - so sex cells / gametes can have half the number
allow need to pair during cell division / meiosis
- (b) any **two** from:
- code
 - combination / sequence of amino acids
 - forming specific / particular proteins / examples
If no other mark gained allow reference to controlling
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characteristics / appearance for 1 mark

- | | | | |
|-----|------|---|---|
| (c) | (i) | C | 2 |
| | (ii) | 30 | 1 |
| (d) | (i) | for growth / repair / replacement / asexual reproduction
<i>do not accept incorrect qualification, eg growth of cells or repair of cells</i>
<i>they equals cells therefore do not accept they grow etc</i> | 1 |
| | (ii) | 44 or 22 pairs | 1 |

[7]

Q24.

- | | | |
|-------|--|---|
| (a) | 2 and 3 | 1 |
| (b) | cell P has an X chromosome; cell R has a Y chromosome | 1 |
| (c) | any two from: <ul style="list-style-type: none">• (formed from) different egg / 2 eggs• (formed from) different sperm / 2 sperm• have different genes / alleles / chromosomes / DNA
<i>allow genetics</i> | 2 |
| (d) | (i) stem cells | 1 |
| | (ii) the cells divide | 1 |
| | the cells differentiate | 1 |
| (iii) | (medical) research / named eg growing organs
or
medical / patient treatment
<i>allow (embryo) cloning</i>
<i>do not allow designer babies / more babies</i> | 1 |
| (iv) | any one from: <ul style="list-style-type: none">• ethical / moral / religious objections
<i>ignore cruel / not natural / playing God</i> | |



- potential harm to embryo
allow deformed
ignore harm to mother

1

[9]

Q25.

(a) chromosomes

1

(b) diagram showing four separate chromosomes two long and two short (as in diagram 1)

allow each chromosome shown as two joined chromatids
*do **not** allow if chromosomes touching each other*

1

(c) (i) any **two** from:

- can grow into any type of tissue / named tissue
- used in medical research
- used to treat human diseases
- large numbers can be grown

2

(ii) any **two** from:

- expensive
- grow out of control / ref cancers
- may be rejected
- need for drugs (for rest of life)

2

[6]

Q26.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

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- 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]

Q27.

(a) A = meiosis

accept 'mieosis'

do not accept 'miosis'

1

B = mitosis

do not accept 'meitosis' etc

1

(b) fertilisation allow conception

1

(c) (i) 23

1

(ii) 46

1

[5]

Q28.

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]

Q29.

- (a) (i) *if two nuclei drawn then maximum two marks* 1
- 6 chromosomes 1
- same 3 homologous pairs 1
- nuclear membrane drawn 1
- (ii) 3 chromosomes 1
- 1 from each homologous pair 1

- (b) (i) *parent line must be separate*
- heterozygous parents $Tt \times Tt$
- maximum of 2 marks if parental genotype is wrong*
- gametes correct $T \quad t \quad T \quad t$ 1
- genotypes $TT \quad Tt \quad Tt \quad tt$ 1
- (ii) correct analysis of chance i.e. 1 in 4 **or** 25% 1
- (iii) 50% **or** 1 in 2 1

[10]

Q30.

- (a) (i) meiosis 1
- (ii) mitosis 1
- (c) (i) **X** pituitary 1
- Y** FSH



(ii) stimulates LH production

1

1

inhibits FSH production / production of Y

1

[6]

Q31.

(a) **A A a a**

Aa allele correctly separated

1

B b B b

*Bb allele arranged to form four different pairings
all four pairings must be correct for the second mark*

1

(b) **A A**

the two cells the same as the parent cell

a a

B B

b b

1 mark for each cell

2

(c) (i) 46

accept 23 pairs

1

(ii) 23

accept half if c(i)

1

(iii) 46

accept save as c(i)

1

[7]

Q32.

(a) circles round right hand **X** and **Y** gametes

*put two ticks **or** crosses by the circles*

2

(b) 50:50 **or** 1:1 **or** 50% **or** 0.5 **or** ½ equal **or** evens

credit even

*do not accept 2:1 **or** 50 / 50*

1



(c) (i) 23

1

(ii) 23

credit the same as the one above to be marked consequential

1

(d) DNA

do not accept nucleic acid

1

(e) same

1

[7]

Q33.

(a) 23

1

(b) chromosome nucleus gene cell
 2 3 1 4

1

(c) (i) any **one** from

(cells which are bigger) take up more space

(cells) have to get bigger **or** mature to divide

1

(ii) chromosomes duplicate **or**
make exact copies of self
accept forms pairs of chromatids

1

nuclei divide
*accept chromatids **or**
chromosomes separate*

1

identical (daughter) cells formed
*accept for example, skin cells make
more skin cells **or** cells are clones*

1

(d) any **two** from

Differentiation mark

babies need **or** are made of different types of cells **or** cells that have different functions

*accept different cells are needed
for different organs*

Division or specialisation mark

as fertilised egg starts to divide each cell specialises to form a part of the body



*accept specialised cells make
different parts of the body*

Growth mark

specialised cells undergo mitosis to grow further cells

*accept cells divide **or** reproduce
to form identical cells*

2

[8]