

Practice Question Set For GCSE
Subject : Biology
Paper-1 Topic: B1 Cell Biology

Name of the Student: _____

Max. Marks : 26 Marks

Time : 26 Minutes

Mark Schemes

Q1.

(a) (i) makes / produces / synthesises protein / enzyme 1

(ii) plant cell has nucleus / vacuole / chloroplasts / chlorophyll
or plant cell is much larger
'It' = plant cell
allow correct reference to DNA or chromosomes
allow plant cell has fewer ribosomes
allow cellulose (cell wall) 1

(b) (i) 200
correct answer with or without working gains 2 marks
*if answer incorrect, allow 1 mark for $\frac{2 \times 50,000}{500}$ **or** $\frac{100,000}{500}$ **or** 100* 2

(ii) bacterial cell is too small / bacterial cell about same size as a
mitochondrion / 'no room'
ignore references to respiration 1

[5]

Q2.

- (a) because water enters (the cell / it / named cell)

*do **not** accept salt / sugar / solution entering*

1

by osmosis / diffusion

if osmosis / diffusion not given accept concentration inside cell greater than outside cell

assume concentration refers to solute concentration unless answer indicates otherwise

allow water goes up the concentration gradient

allow water goes down its concentration gradient

*do **not** accept if diffusion of salt / sugar*

1

through a partially permeable membrane

*allow semi / selectively permeable membrane **or** description*

1

- (b) (plant cells) have (cell) wall

accept animal cells have no (cell) wall

ignore reference to cell membrane

*do **not** accept reference to other organelles **or** any implication that animal cells have a cell wall eg plant cells have a thicker cell wall*

1

[4]

Q3.

(a) large surface / large area

1

thin / short distance (from air to blood) / one cell thick / two cells thick

1

good blood supply / many capillaries / capillary network / many blood vessels
ignore moist surface

1

(b) (i) diffusion

ignore gaseous exchange

1

(ii) brings (more) oxygen / air into the lungs / alveoli

1

keeps O₂ level high in alveoli

or

maintains concentration difference (between alveoli and blood) / keeps O₂ concentration in alveoli > O₂ concentration in blood gains **2** marks

1

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Q4.

(a) (i) release energy

allow provide / supply / give energy

*do **not** accept produce / create / generate / make energy*

*do **not** allow release energy for respiration*

1

(ii) contain half the (number of) chromosomes **or** contains
one set of chromosomes **or** contains 23 chromosomes

*allow genetic information / DNA / genes / alleles instead of
chromosomes*

accept haploid

1

(b) any two from:

- (stem cells) are unspecialised / undifferentiated
allow description eg 'no particular job'
- are able to become differentiated
or can form other types of cell / tissue / organ
- stem cells can / able to divide / multiply

2

[4]

Q5.

(a) any **two** from:

- amylase / carbohydrase
- protease
allow trypsin
- lipase

2

(b) (i) high / above normal blood sugar
or cannot control blood sugar

allow other symptoms
*eg frequent / plentiful urination **or** sugar in urine **or** thirst **or** weight loss*
***or** coma*
ignore consequential effects eg blood pressure / circulation / glaucoma
/ tiredness

1

(ii) any **one** from:

- small / regular meals
- low sugar (meals) or low GI / GL **or** carbohydrates as starch
allow high fibre
ignore reference to low carbohydrate

1

(iii) any **one** from:

- keep constant(blood) sugar **or** prevent high (blood) sugar
or reduces surge / rush of sugar into blood
- reduce the need for insulin

1

(iv) (take) insulin

allow pancreas transplant

1

(c) protein / hormone / enzyme synthesis **or** synthesis of named example
or combine amino acids

1

[7]