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

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Name of the Student:_____
Max. Marks : 18 Marks **Time : 18 Minutes**

Mark Schemes

Q1.

(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

1

(b) any **two** from:

- code
- combination / sequence of amino acids
- forming specific / particular proteins / examples

*If **no other mark** gained allow reference to controlling characteristics / appearance for **1** mark*

2

(c) (i) C

1

(ii) 30

1

(d) (i) for growth / repair / replacement / asexual reproduction

*do **not** accept incorrect qualification, eg growth of cells **or** repair of cells*

they equals cells therefore do not accept they grow etc

1

(ii) 44 **or** 22 pairs

1

[7]

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Q2.

(a) (i) glucose **and** galactose

1

(ii) any **three** from:

Evidence:

- absorption reduced by cyanide
  allow converse
- absorb faster (than other sugars)

Explanation:

- active transport needs <u>energy</u>
- less / no <u>energy</u> available / released if cyanide is there
  or less / no <u>energy</u> if no / less respiration
  allow <u>energy</u> produced
  ignore cyanide prevents respiration

3

(b) all / the sugars / they can be absorbed <u>when gut poisoned</u> / <u>with cyanide</u> **or** <u>when no respiration</u>

1

(diffusion) does not need an <u>energy</u> supply

1

[6]

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Q3.

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

4

Conclusion to evaluation:

A reasoned conclusion from the evidence

1

[5]

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