EXAM PAPERS PRACTICE

Boost your performance and confidence with these topic-based exam questions

Practice questions created by actual examiners and assessment experts

Detailed mark scheme

Suitable for all boards

Designed to test your ability and thoroughly prepare you

Level: IGCSE Oxford AQA Biology (9201)
Subject: Biology
Topic: IGCSE AQA Biology
Type: Mark Schemes

To be used by all students preparing for IGCSE Oxford AQA Biology (9201)
Students of other Boards may also find this useful

Biology **IGCSE AQA**

Key skills

Mark schemes

1. (a)

×	✓	✓
✓	×	✓

1 mark for each correct row if no other marks awarded allow a mark for one correct column

2

(b) a bacterial cell

1

(c) make / synthesise / produce protein

allow produce enzymes

1

(d) 0.0015 (mm)

allow 1.5×10^{-3} (mm)

1

(e) mitochondria are longer / bigger (than the cell)

allow too big

1

(f)

2^4

*an answer of 16 scores **2** marks*

allow 2 × 2 × 2 × 2 or a correct list showing doubling at each time interval

1

16

*allow 90 mins = 8 for **1** mark*

1

(g) (number of live cells / bacteria) stays level / the same until 11 hours

answer must refer to number of live cells / bacteria (not the shape of the graph)

allow (number of cells / bacteria) is very low until 11 hours allow number in the range 10-11 hours

1

then (number of live cells / bacteria) increases rapidly to 2.5×10^8
or
from 11 hours to 14.5 hours

allow (then) increases exponentially

1

then (number of live cells / bacteria) stays at 2.5×10^8

allow (number of live cells / bacteria) stays the same for the next 5 hours

or
stays the same from 15 to 20.5 hours

*if no other mark awarded allow for **1** mark the idea that the graph is level, then increases, then levels off again*

1

(h) any **one** from:

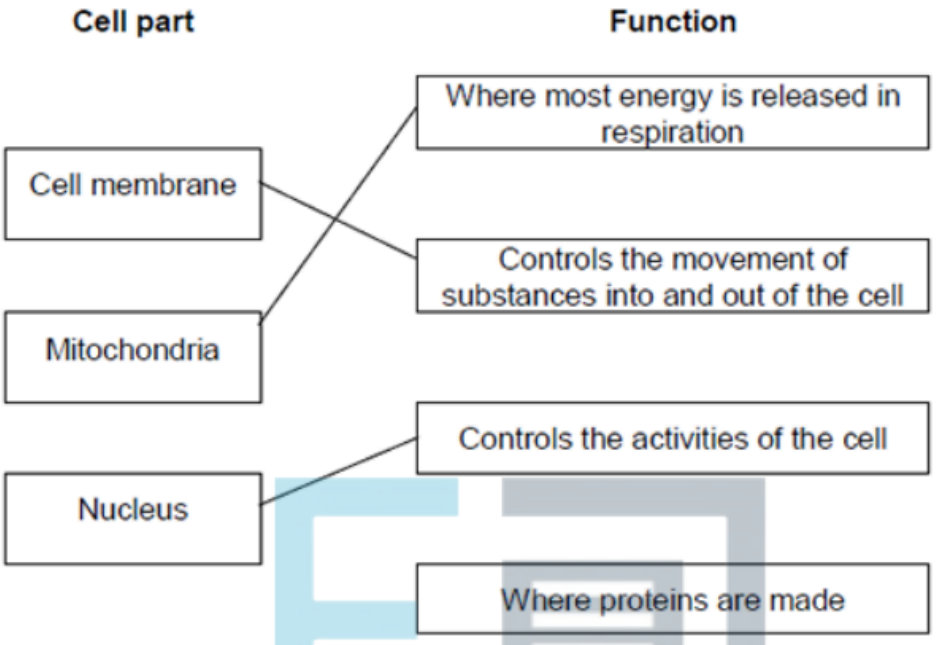
- lack of food / nutrients / oxygen / space
  or
  competition for space
- build-up of toxins

  allow ethanol
- temperature too high

1

[12]

2. (a)



extra lines cancel **3**

(b) Cell wall

in either order

1

Chloroplast

allow (permanent) vacuole

1

[5]

3. (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]

4. (a) contract / shorten

ignore relax

*do **not** allow expand*

1

to churn / move / mix food

accept peristalsis / mechanical digestion

ignore movement unqualified

1

(b) 400

acceptable range 390-410

allow 1 mark for answer in range of 39 to 41

allow 1 mark for answer in range of 3900 to 4100

2

(c) to transfer energy for use

allow to release / give / supply / provide energy

*do **not** allow to 'make' / 'produce' / 'create' energy*

allow to make ATP

ignore to store energy

1

by (aerobic) respiration **or** from glucose

*do **not** allow anaerobic*

*energy released **for** respiration = max 1 mark*

1

(d) (i) to make protein / enzyme

ignore 'antibody' or other named protein

1

(ii) too small / very small

allow light microscope does not have sufficient magnification / resolution

allow ribosomes are smaller than mitochondria

ignore not sensitive enough

ignore ribosomes are transparent

1

[8]

5. (a) nucleus labelled correctly **1**

cell membrane labelled correctly **1**

(b) mitosis **1**

(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]

6. (a) electron (microscope)

1

(b) $\frac{30000}{200}$

*an answer of 150 (μm) scores **2** marks*

1

150 (μm)

*if answer is incorrect allow for **1** mark sight of 0.015 / 0.15 / 1.5 / 15*

*allow ecf for incorrect measurement of line **X** for max **1** mark*

1

(c) **either**

large surface area

allow (vacuole contains) cell sap that is more concentrated than soil water (1)

1

for more / faster osmosis

create / maintain concentration / water potential gradient (1)

or

allow thin (cell) walls

for short(er) diffusion distance

1

(d) (on hot day) more water lost

allow converse for a cold day if clearly indicated

1

more transpiration

or

more evaporation

1

so more water taken up (by roots) to replace (water) loss (from leaves)

1

(e) (aerobic) respiration occurs in mitochondria

do not accept anaerobic respiration 1

(mitochondria / respiration) release energy

do not accept energy produced / made / created

1

(energy used for) active transport

1

to transport ions, against the concentration gradient

or

from a low concentration to a high concentration

1

[12]