BIOLOGY MIND

# AQA

# GCSE

# BIOLOGY

4.1 | Cell Biology

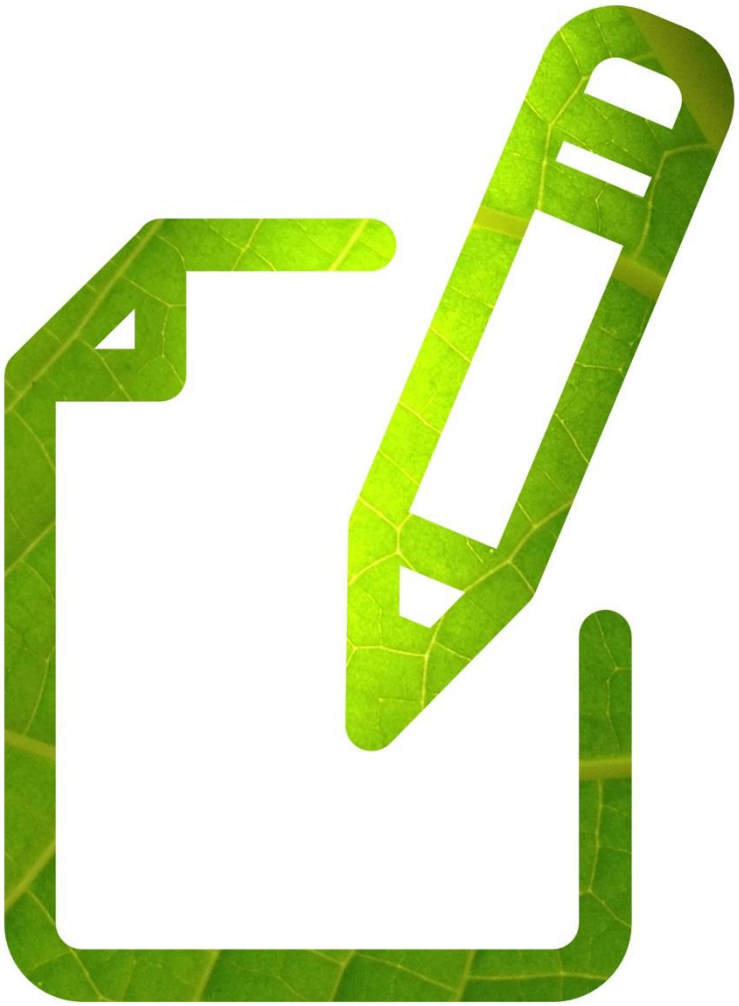
**ANSWER PAPER 1**

Difficulty

**EASY**

Time allowed

**59 minutes**



| Score | Percentage |
| --- | --- |
| /59 | % |

1 (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]**

2 (a) A (inoculating / wire) loop

1

B Petri dish

*allow (agar) plate*

*ignore ref to culture medium*

1

(b) (i) to kill (unwanted) bacteria / microorganisms / microbes

*allow fungi*

*ignore viruses / germs*

1

(ii) Using a flame

1

(iii) any **one** from:

- so bacteria / microorganisms / microbes / pathogens / fungi (growing in dish) do not get out

  *ignore reference to gases*

  *ignore viruses / germs*

- so bacteria / microorganisms / microbes / pathogens / fungi (from the air) do not get in.

  *ignore viruses / germs*

1

(c) 25 °C

1

**[6]**

3 (a) (i) Chromosomes

1

(ii) Characteristics

1

(iii) Classify

1

(b) Plants

*ignore algae*

1

**[4]**

4 (a) (i) A = (cell) membrane

1

B = cytoplasm

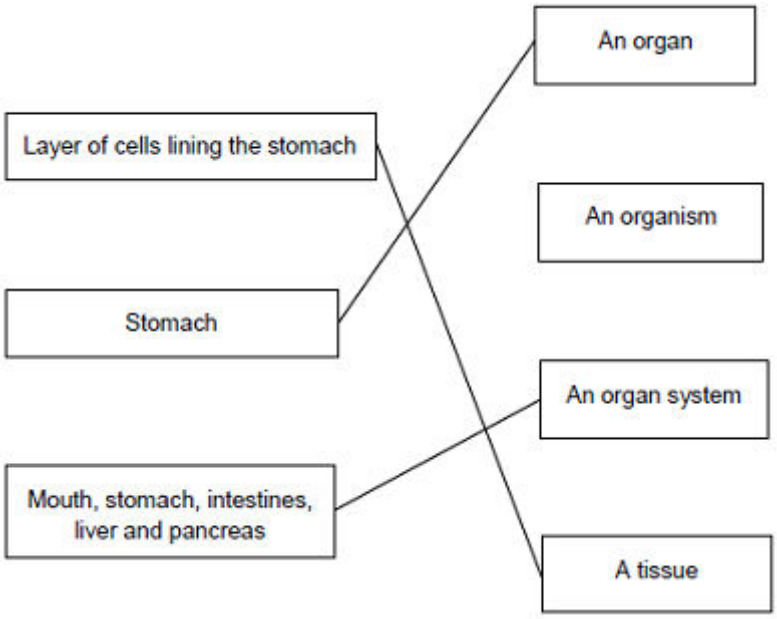
*do **not** accept cytoplast*

1

(ii) To control the activities of the cell

1

(b)




extra lines cancel

3

**[6]**

5 (a) (i) **A** − (cell) wall

1

**B** − cytoplasm

1

**C** − plasmid

1

(ii) bacterium cell has cell wall / no nucleus / no mitochondria / plasmids present

*accept its DNA / genetic material is not enclosed / it has no nuclear membrane*

*it = bacterium cell*

*accept converse for animal cell*

*ignore flagella*

1

(iii) any **one** from:

- chloroplast

  *ignore chlorophyll*
- (permanent) vacuole

1

(b) (Long tail) moves the sperm / allows the sperm to swim

1

towards the egg

*allow correct reference to other named parts of the female reproductive system*

1

(Mitochondria) release <u>energy</u> (for movement / swimming)

*allow supply / produce / provide*

1

in respiration

1

**[9]**

6 (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]**

7 (a) (i) 25°C

1

(ii) pathogens

1

(b) **D**

1

more / most bacteria killed

*accept biggest area / ring where no bacteria are growing*

1

(c) viruses live inside cells

1

**[5]**

**M**8.(a) (i) **C** and **D**

*no mark if more than one box is ticked*

**1**

(ii) any **one** from:

*do **not** allow if other cell parts are given in a list*

- (have) cell wall(s)
- (have) vacuole(s)

**1**

(b) (i) **A**

*apply list principle*

**1**

(ii) **D**

*apply list principle*

**1**

(c) respiration

*apply list principle*

**1**

**[5]**

**M**9.(a) (i) A = nucleus

1

B = (cell) membrane

1

(ii) any **two** from:

*ignore shape*

- no (cell) wall
- no (large / permanent) vacuole
- no chloroplasts / chlorophyll

2

(b) because high to low oxygen / concentration **or** down gradient

*allow 'more / a lot of oxygen molecules <u>outside</u>'*

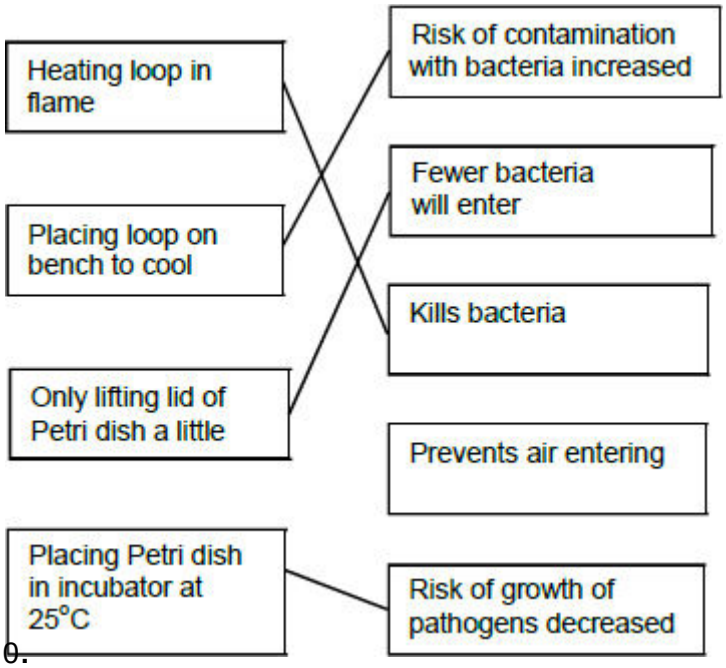
*ignore along / across gradient*

1

(c) a tissue

1

**[6]**




**M10.**

*any box on the left joined to > 1 other box - cancel*

**[4]**