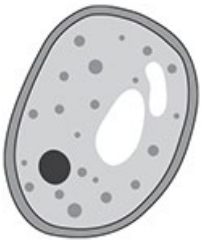
1(a). The diagram shows a yeast cell.



i. Name **two** sub-cellular structures the yeast cell has in common with both animal and plant cells.

1 _____

2 _____ **[2]**

ii. Yeast is classified as a fungus and not as a plant or animal.

Explain why fungi are **not** classified as plants or as animals.

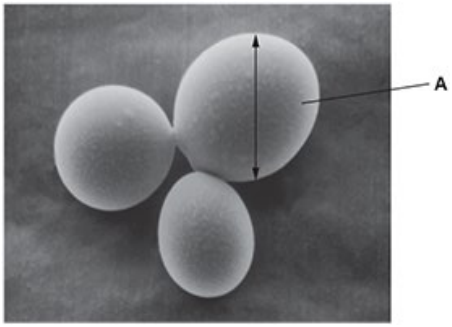
Use the diagram.

_____

_____ **[1]**

(b). Yeast is a fungus.

The image is of some yeast cells taken using an electron microscope.



The actual diameter of the yeast cell labelled **A** is 2.8 μm.

(1 mm = 1000 μm)

Calculate the magnification used to produce this image.

Give your answer to **3** significant figures.

Magnification = ... **[4]**

(c). The cells in the image are baker's yeast.

Baker's yeast is used to make bread. The yeast respires anaerobically.

Which product of this process will help the bread rise?

_____**[1]**

2. Scientists researching how mitochondria produce ATP came up with a theory.

Their theory said:

- Hydrogen ions are transported into the space between the two membranes surrounding the mitochondria, shown in **Fig. 25.1**.
- The ions become concentrated in this space.
- The ions diffuse back into the mitochondria making ATP.

To test this theory the scientists removed the outer membrane of the mitochondria, as shown in **Fig. 25.2**.

Fig. 25.1

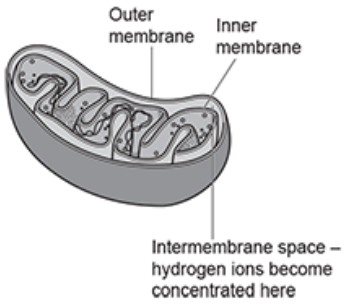
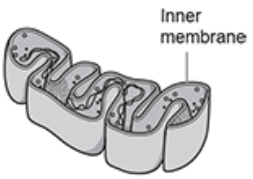


Fig. 25.2



The result of their experiment showed that less ATP is formed.

Explain how this result shows that their theory is correct.

_____

_____

_____

_____**[2]**

3. Compare the DNA found in eukaryotic and in prokaryotic cells.

[3]

4. Liver cells are active cells producing many protein molecules.

Which organelles are present in liver cells?

A Chloroplasts and mitochondria
B Mitochondria and plasmids
C Nuclei and ribosomes
D Ribosomes and plasmids

Your answer ☐ **[1]**

END OF QUESTION PAPER