

**Cell Structure – 2021/20 GCE Biology A Component 01****1. Nov/2021/Paper\_H420/1/No.3**

Which of the options describes the path taken by proteins, such as digestive enzymes, that are exported from a cell?

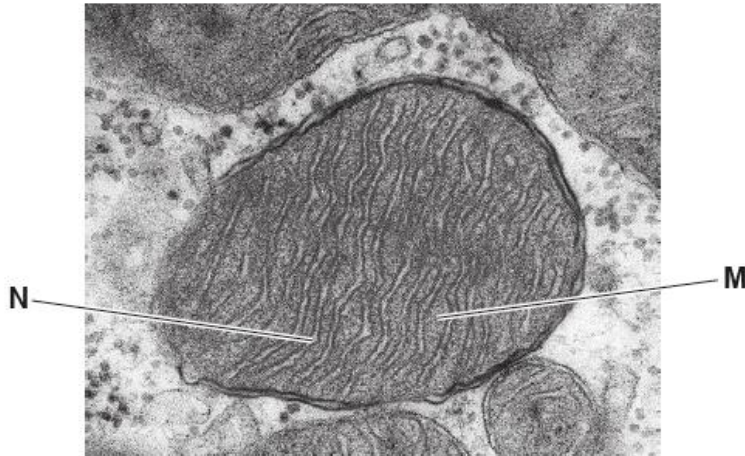
- A** Golgi apparatus → rough endoplasmic reticulum → secretory vesicle
- B** ribosome → smooth endoplasmic reticulum → Golgi apparatus
- C** rough endoplasmic reticulum → Golgi apparatus → secretory vesicle
- D** smooth endoplasmic reticulum → ribosome → Golgi apparatus

Your answer

**[1]**

2. Nov/2020/Paper\_H420/1/No.19

(a) The image below is a photomicrograph of a mitochondrion.



(i) State the type of microscope used to produce this image.

..... [1]

(ii) Identify the structures labelled **M** and **N** in the photomicrograph.

**M** .....

**N** .....

[2]

(b) Describe **two** ways in which the structure of mitochondrial membranes is related to the function of a mitochondrion.

1 .....

.....

2 .....

.....

[2]

- (c) The endosymbiosis theory suggests that mitochondria may have evolved from bacteria that were taken inside other cells.

These cells then evolved into eukaryotes.

- (i) Give **two** structural features of mitochondria that support this theory.

1 .....

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2 .....

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**[2]**

- (ii) Explain why early eukaryotes were able to grow more quickly than cells that did not possess mitochondria.

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..... **[3]**