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Level: HL IB in Biology

Subject: Biology

Topic: IB HL Biology

Type: Topic Question

2002



1583

All International Baccalaureate IB Topic Questions HL Biology

BIOLOGY

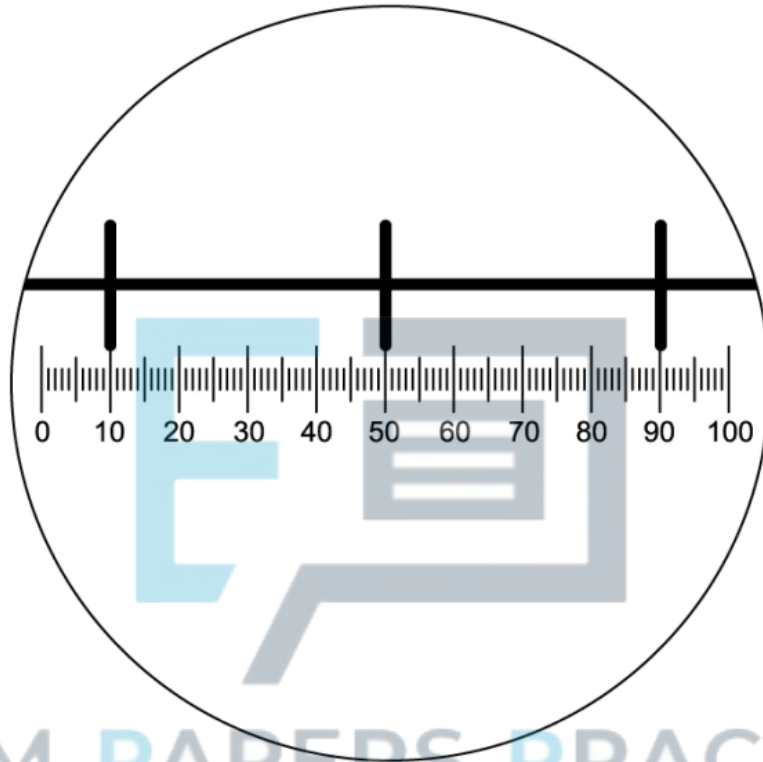
HL - IB

Key skills



****Question 1****

A stage micrometer with small divisions of 0.1 mm was used to calibrate an eyepiece graticule.

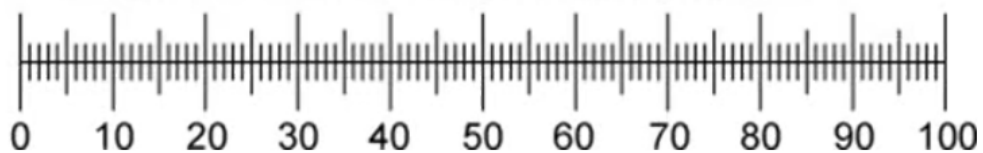
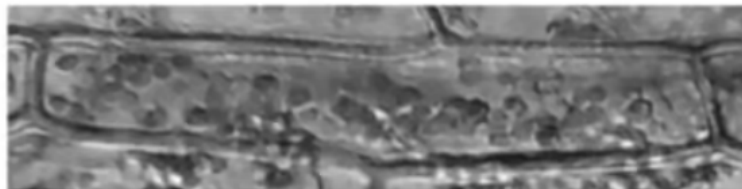


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A slide containing a plant cell was placed on the stage in place of the stage micrometer.

What is the width of one of the chloroplasts below?



- A. 100 μm
- B. 50 μm

- C. 10 μm
- D. 0.5 mm

[1 mark]

****Question 2****

A giant bacterium, *Epulopiscium fishelsoni*, was discovered in 1985. Which cell structure(s) would enable biologists to classify *Epulopiscium* as prokaryotic?

- A. Circular DNA and 70S ribosomes occurring freely in the cytoplasm, and a cell wall made of murein
- B. A pair of centrioles close to a nuclear pore, and 70S and 80S ribosomes occurring freely in the cytoplasm
- C. Smooth endoplasmic reticulum throughout the cytoplasm, and a cell wall made of murein
- D. A cellulose cell wall outside the plasma membrane, 70S ribosomes, and circular DNA occurring freely in the cytoplasm

[1 mark]

****Question 3****

A cell which is actively growing is supplied with radioactive amino acids. Which cell component will show an increase in radioactivity first?

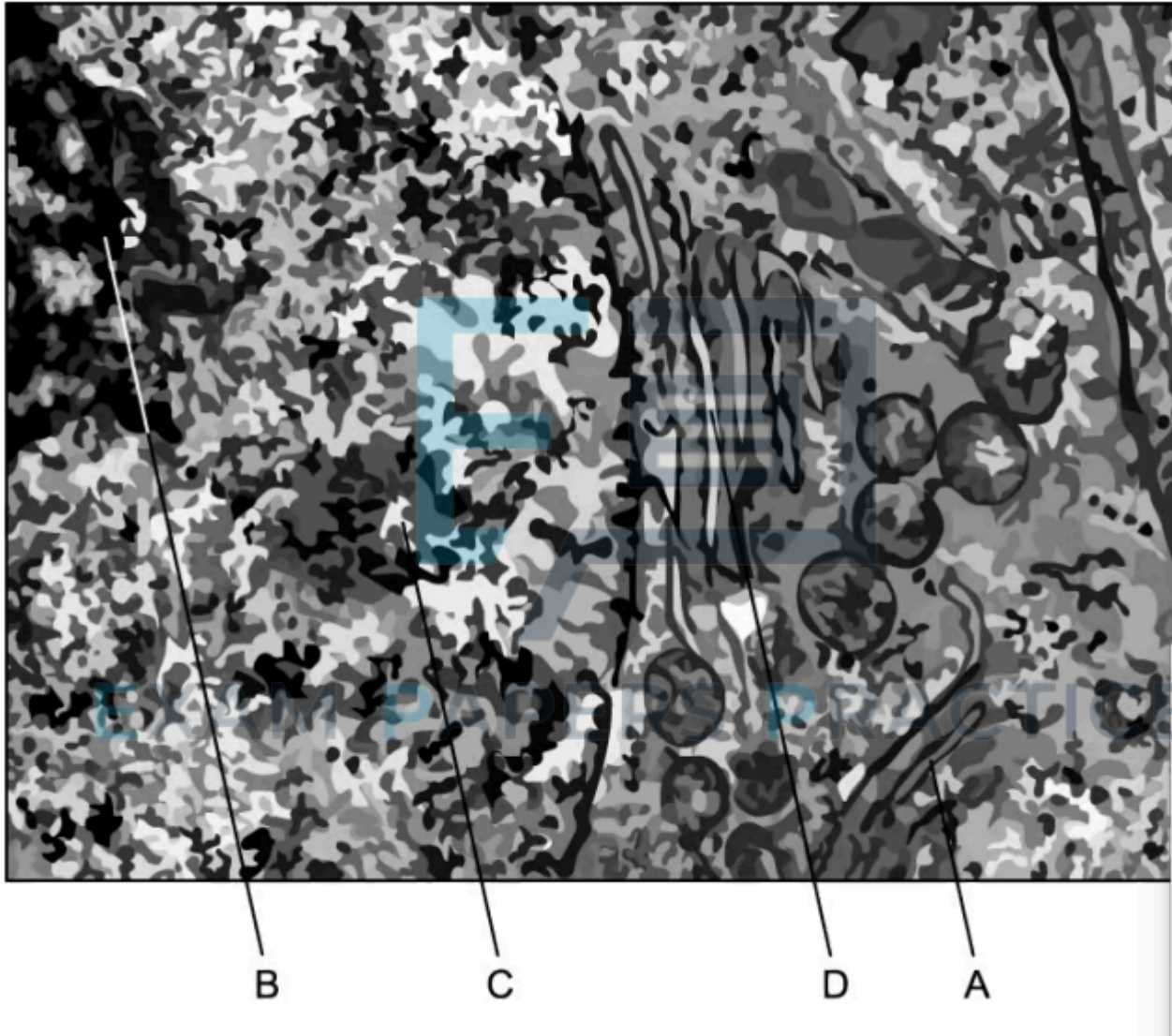
- A. Mitochondria
- B. Golgi apparatus
- C. Rough endoplasmic reticulum
- D. Nucleus

[1 mark]



****Question 4****

The image below is an electron micrograph of part of an animal cell. Which of the following options (A to D) would be the site of protein modification and packaging?

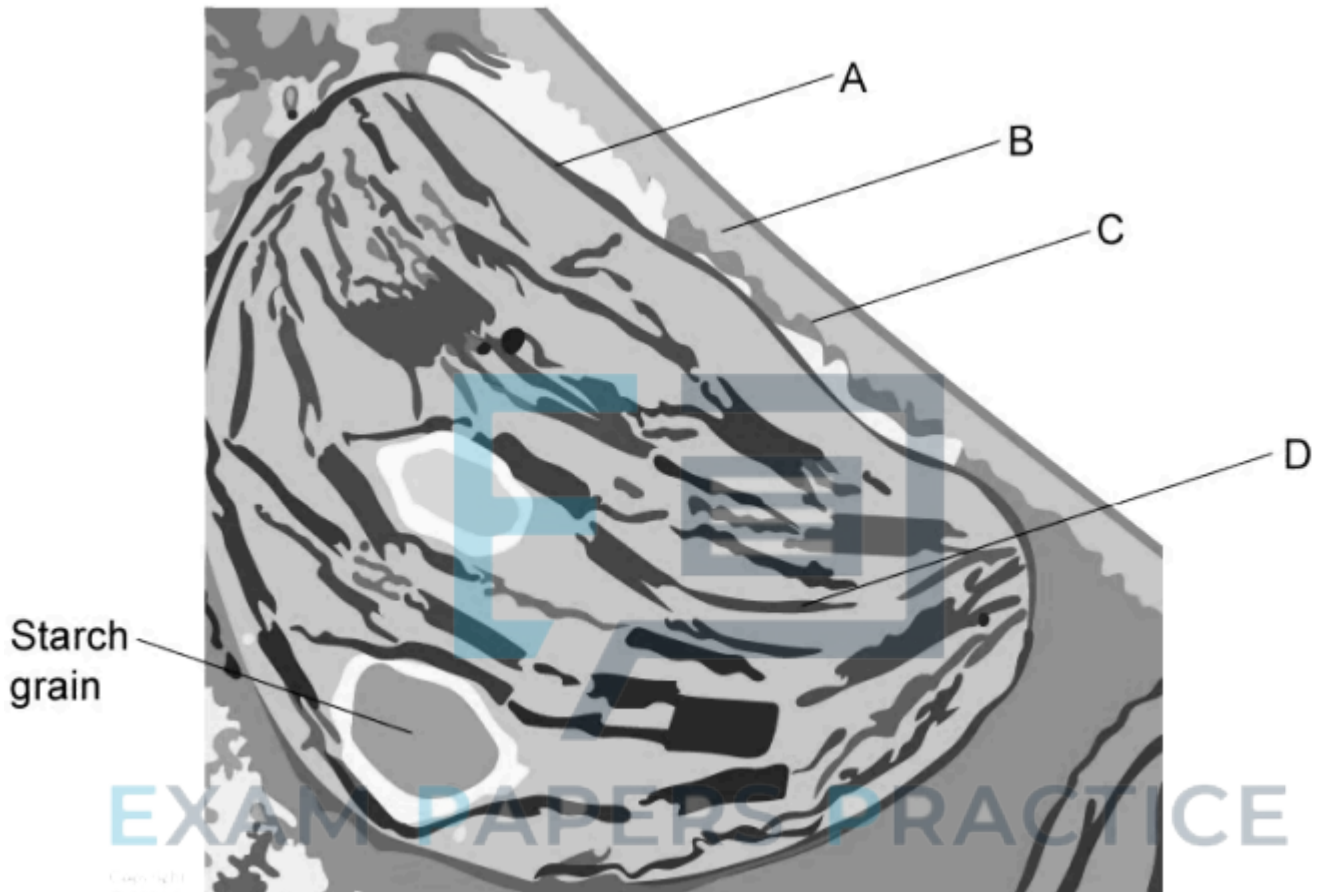


[1 mark]



****Question 5****

The electron micrograph below shows a small section of a palisade mesophyll cell.



Which structure controls the exchange of substances into and out of the cell?

[1 mark]