

# **Smart Edu Hub / Smart Exam Resources**

9700 / CAIE A level Biology / Paper-1/ Multiple Choice  
Questions

## **1.2.27-Comparing-Cell-Types-Set-2-qp**

Total Questions: 7

# Questions

## Question 1:

Which structures are found in **both** typical eukaryotic cells **and** typical prokaryotic cells?

- 1 70S ribosomes
- 2 80S ribosomes
- 3 circular DNA

A 1, 2 and 3    B 1 and 3 only    C 1 only    D 2 only

## Question 2:

It is possible for a bacterium to synthesise a eukaryotic protein.

This involves introducing a eukaryotic gene into the bacterial DNA, which can be translated.

What explains why a bacterial cell can produce a eukaryotic protein but cannot produce a eukaryotic glycoprotein?

- A Bacteria do not have 70S ribosomes.
- B Bacteria do not have a nuclear envelope.
- C Bacteria do not have Golgi bodies.
- D Bacteria do not have mitochondria.

## Question 3:

Which types of RNA are found in **both** prokaryotic and eukaryotic cells?

|   | mRNA | rRNA | tRNA |
|---|------|------|------|
| A | ✓    | ✓    | ✓    |
| B | ✓    | ✓    | x    |
| C | x    | ✓    | ✓    |
| D | x    | ✓    | x    |

key

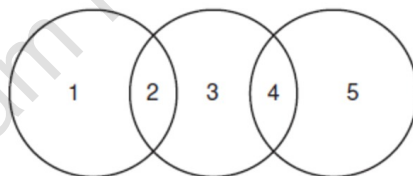
✓ = present

x = absent

# Questions (Continued)

## Question 4:

The diagram shows some similarities between typical prokaryotes, chloroplasts and mitochondria.



Which is correct?

|          | 1            | 2                              | 3            | 4                              | 5            |
|----------|--------------|--------------------------------|--------------|--------------------------------|--------------|
| <b>A</b> | chloroplasts | circular DNA and 70S ribosomes | mitochondria | circular DNA and 70S ribosomes | prokaryotes  |
| <b>B</b> | chloroplasts | circular DNA and 80S ribosomes | prokaryotes  | circular DNA and 80S ribosomes | mitochondria |
| <b>C</b> | mitochondria | linear DNA and 70S ribosomes   | chloroplasts | linear DNA and 70S ribosomes   | prokaryotes  |
| <b>D</b> | mitochondria | linear DNA and 80S ribosomes   | prokaryotes  | linear DNA and 80S ribosomes   | chloroplasts |

## Question 5:

Which structures are found in both chloroplasts and mitochondria?

- 1 70S ribosomes
- 2 80S ribosomes
- 3 circular DNA

**A** 1 and 3      **B** 2 and 3      **C** 1 only      **D** 3 only

## Questions (Continued)

### Question 6:

Which feature is found in **both** prokaryotic and plant cells?

- A cell wall
- B DNA bound to protein
- C endoplasmic reticulum
- D Golgi apparatus

### Question 7:

Mitochondria are thought to have evolved from prokaryotic cells that were ingested by an ancestral cell.

Which feature have the prokaryotes lost during their evolution into mitochondria?

- A cell wall
- B circular chromosome
- C endoplasmic reticulum
- D ribosomes