

**Trial Examination 2023** 

# **Question and Response Booklet**

# **QCE Biology Units 1&2**

Paper 2

Student's Name: \_\_\_\_\_

Teacher's Name:

#### Time allowed

- Perusal time 10 minutes
- Working time 90 minutes

#### **General instructions**

- Answer all questions in this question and response booklet.
- Write using black or blue pen.
- QCAA-approved calculator permitted.
- Planning paper will not be marked.

#### Section 1 (45 marks)

8 short response questions

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## **SECTION 1**

## Instructions

- If you need more space for a response, use the additional pages at the back of this booklet.
  - On the additional pages, write the question number you are responding to.
  - Cancel any incorrect response by ruling a single diagonal line through your work.
  - Write the page number of your alternative/additional response, i.e. See page ...
  - If you do not do this, your original response will be marked.

## DO NOT WRITE ON THIS PAGE

## THIS PAGE WILL NOT BE MARKED

## **QUESTION 1** (6 marks)

Identify and briefly describe the three main components of the inflammatory response.

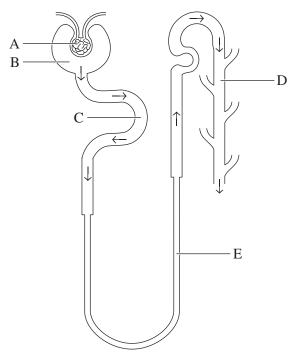
Component 1:			
Component 2:			
Component 3:			

#### **QUESTION 2** (4 marks)

a)	Identify three structural features of plants that maintain water balance.	[3 marks]
b)	With reference to one of the structural features identified in Question 2a), compare xerophytes and mesophytes.	[1 mark]

# QUESTION 3 (7 marks)

The diagram shows a simplified nephron.



a) Complete the table by identifying the components labelled on the nephron.

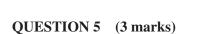
[5 marks]

	Component name
Α	
В	
С	
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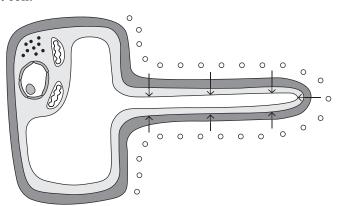
b) Describe how the kidneys' function relates to maintaining water balance in the body. [2 marks]

## **QUESTION 4** (4 marks)

Identify four structural features that are required for efficient gas exchange across a membrane in a multicellular animal.



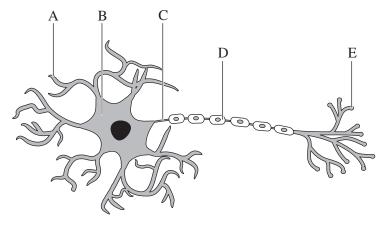
The diagram shows a root cell.



Explain how the cell's structure aids the passive movement of water and nutrients into the plant.

# QUESTION 6 (7 marks)

The diagram shows a neuron.



a) Complete the table by identifying the components labelled on the neuron.

[5 marks]

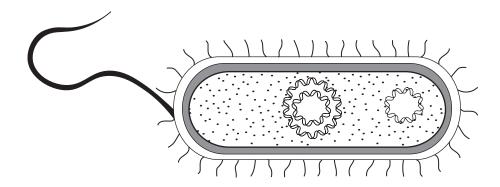
	Component name
Α	
В	
С	
D	
E	

b) Explain the process of the passage of a nerve impulse.

[2 marks]

## **QUESTION 7** (7 marks)

The diagram shows a prokaryotic cell.

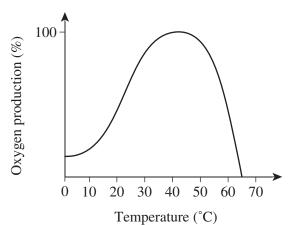


- a) On the diagram, label three common physical characteristics of a prokaryotic cell. [3 marks]
- b) What environment does this cell live in? Justify your response. [2 marks]

c) Identify two similarities between a prokaryotic cell and a eukaryotic cell. [2 marks]

## QUESTION 8 (7 marks)

A student measures and graphs the activity of the enzyme catalase at various temperatures. The results are shown in the graph.



a) Describe how temperature affects enzyme activity.

[2 marks]

**END OF PAPER** 

