

Centre Number	Examination Number

EXAMINATIONS COUNCIL OF ZAMBIA

Examination for General Certificate of Education Ordinary Level

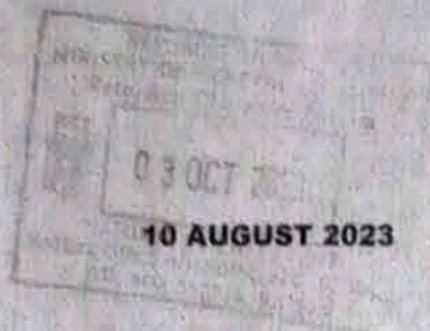


5090/2

Biology

Paper 2 Theory

Thursday



Additional Materials:
Answer Booklet

Time: 1 hour 45 minutes

Marks: 80

Instructions to Candidates

- Write the **centre number** and your **examination number** on **every page** of this question paper and on the separate **Answer Booklet** provided.
- There are **two** sections in this paper, **Section A** and **B**.
 - Section A**
There are **five** questions in this section. Answer **all**. Write your answers in the spaces provided on the question paper.

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(ii) Section B

There are **five** questions in this section. Answer any **three** questions. Write your answers in the separate Answer Booklet provided.

- At the end of the examination:
 - fasten the Answer Booklet securely to the question paper.
 - enter the numbers of the **Section B** questions you have answered in the grid provided.

Information for Candidates

- The number of marks is given in brackets [] at the end of each question or part question.
- You are advised to spend no longer than 40 minutes on **Section A**.
- Cell phones are **not allowed** in the examination room.

	For Examiner's Use	
For Candidate's Use	Mark Obtained	Examiner's Initials
Section A		
1		
2		
3		
4		
5		
Section B		
Total		

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Section A: Short answer questions [44 MARKS]

Answer **all** the questions in the spaces provided in the question paper.

1 **Figure 1** shows different types of specialised cells.

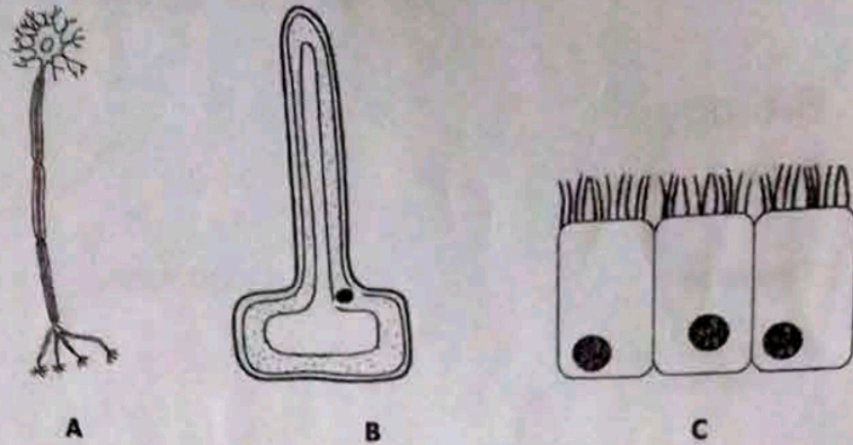


Figure 1

(a) (i) Identify the cells **A**, **B** and **C**.

A [1]

B [1]

C [1]

(ii) State the part of the living organism in which the specialised cells **B** and **C** are normally found.

B [1]

C [1]

(b) Explain the function of each of the cells in **Figure 1**.

A [1]

B [1]

C [1]

[Total: 8 marks]

2 0 2 3

2 Figure 2 represents a Rhizopus growing on bread.

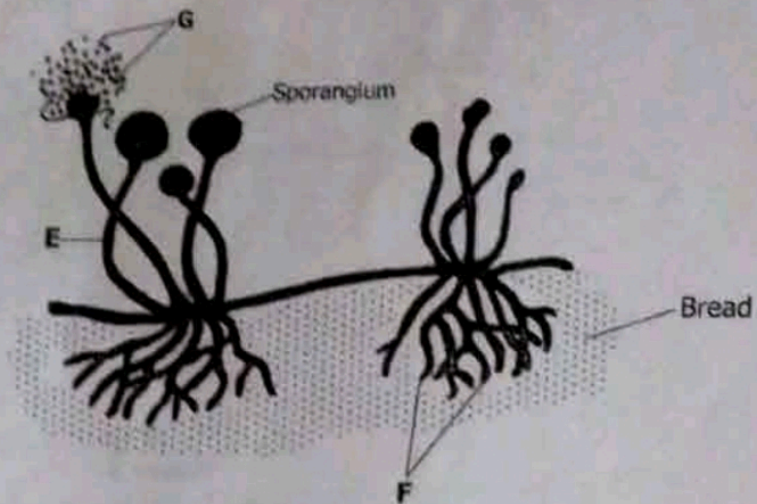


Figure 2

(a) Identify the parts labelled E, F and G.

- E [1]
 F [1]
 G [1]

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(b) (i) State the type of nutrition found in the organism in Figure 2.

..... [1]

(ii) Explain how the nutrition identified in (b)(i) is brought about.

.....

 [3]

(c) Describe the importance of the nutrition in the Rhizopus to the environment.

.....

 [2]

[Total: 9 marks]

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3 Figure 3 shows part of the respiratory organs of a bony fish.

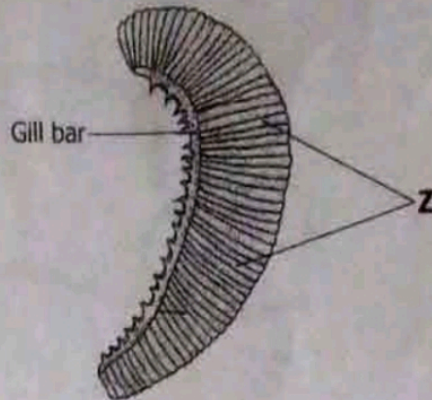


Figure 3

- (a) (i) Identify structures labelled Z.
..... [1]
- (ii) Explain how structures labelled Z are suitable for their function.
..... [1]
- (iii) Name **two** other respiratory organs in fish other than the one shown in Figure 3.
1 [1]
2 [1]
- (b) Describe the role played by each of the respiratory organs identified in (a)(ii).
1 [2]
2 [2]
- (c) Which respiratory organ in humans plays the same role as structure Z in a bony fish?
..... [1]

[Total: 9 marks]

2 0 2 3

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4 Figure 4 shows the relationship between blood, tissue fluid, cells and lymph.

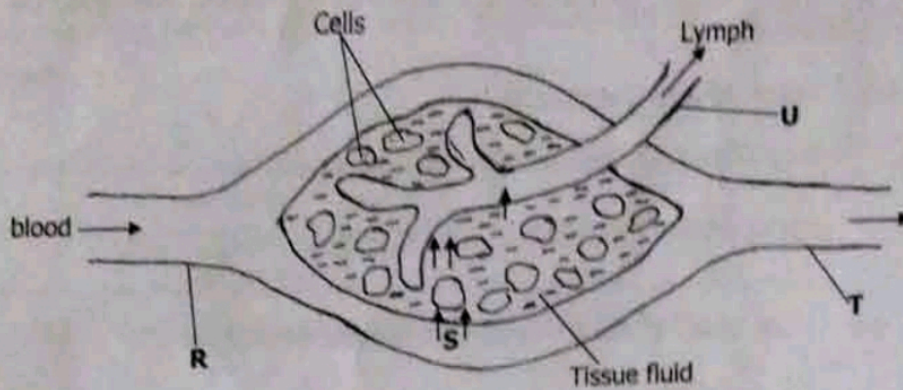


Figure 4

(a) Identify structures U and T.

U [1]

T [1]

(b) (i) Name one nutrient represented by S.

..... [1]

(ii) Compare the blood pressure at R to that at T and give a reason for your answer.

Comparison [1]

Reason [2]

(c) Explain the role of structure U in relation to blood circulatory system.

..... [3]

[Total: 9 marks]

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Section B: Essay questions [36 MARKS]

Answer any **three** questions from this section. All answers must be in complete sentences and in paragraphs.

- 1** (a) (i) State **three** substances which a mammal can excrete out of its body. [3]
- (ii) Explain how each of the substances mentioned in (a) (i) is excreted. [6]
- (b) Compare and contrast excretion and osmoregulation. [3]
- [Total: 12 marks]**
- 2** (a) Describe the process of fertilisation in flowers. [6]
- (b) Explain the process of implantation in human beings. [2]
- (c) Describe the health risks associated with foetal development. [4]
- [Total: 12 marks]**
- 3** (a) Explain the meaning of the term 'growth'. [2]
- (b) Explain the differentiation of primary and secondary tissues in plants. [10]
- [Total: 12 marks]**
- 4** (a) Explain the effects of light energy and gravity on the directional growth of plants. [6]
- (b) Using **two** named examples, describe taxic response. [4]
- [Total: 12 marks]**
- 5** (a) Explain the term 'population'. [4]
- (b) Discuss the factors that cause changes in population size. [8]
- [Total: 12 marks]**