

### Section A (20 Marks)

1. a. What is respiration.

\_\_\_\_\_  
\_\_\_\_\_  
(1 mark)

- b. Give any two importance of gaseous exchange in your body.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
(2 marks)

- c. What is carbon monoxide poisoning?

\_\_\_\_\_  
(1 mark)

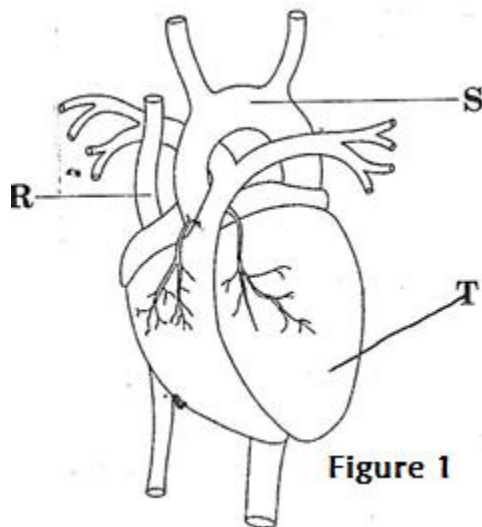
- d. State any two ways of preventing carbon monoxide poisoning

\_\_\_\_\_  
(2 marks)

2. Give any **two** factors that affect human population growth in Malawi

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
(2 marks)

3. **Figure 1** is a diagram showing the internal structure the heart.



- a. Name the parts labelled S and T

S \_\_\_\_\_ T \_\_\_\_\_  
(2 marks)

b. Explain how the following structural concepts of the heart assist in its function.

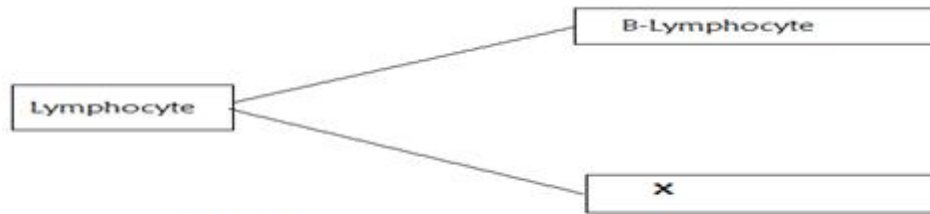
i. The left ventricle is more muscular than the right ventricle walls

\_\_\_\_\_ (1 mark)

ii. The heart has valves

\_\_\_\_\_ (1 mark)

4. **Figure 2** shows types of the lymphocytes in a flow diagram. Use it to answer the questions that follow.



**Figure 2**

a. Name the lymphocytes X

\_\_\_\_\_ (1 mark)

b. State the difference between “B-lymphocytes” and “X”

\_\_\_\_\_ (1 mark)

Explain what happens if lymphocyte X has been weakened by HIV

\_\_\_\_\_ (2 marks)

5. a. Give any one function of the liver

\_\_\_\_\_ (1 mark)

b. State any one problem associated with the digestive system

\_\_\_\_\_ (1 mark)

c. Explain any one adaptation of the small intestines to their functions

\_\_\_\_\_ (1 mark)

### Section B (60 Marks)

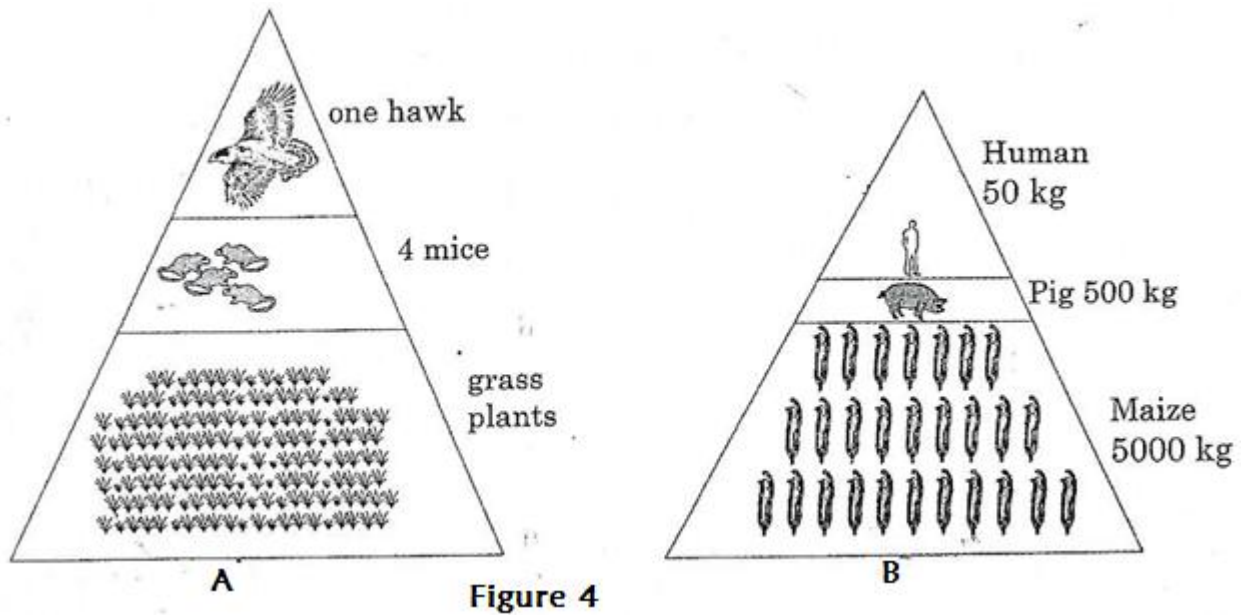
6. a. what is excretion?

\_\_\_\_\_ (1 mark)

b. What is the difference between egestion and excretion?



- ii. Progesterone \_\_\_\_\_ (1 mark)
8. a. Describe the modes of transmission of the following diseases
- i. Tuberculosis \_\_\_\_\_ (1 mark)
- ii. Cholera \_\_\_\_\_ (1 mark)
- iii. Ringworms \_\_\_\_\_ (1 mark)
- b. i. What causes Cholera? \_\_\_\_\_ (1 mark)
- ii. Give any two ways how Cholera can be prevented
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_ (2 marks)
9. a. Define variation \_\_\_\_\_ (1 mark)
- b. State any two causes of variation
- i. \_\_\_\_\_
- ii. \_\_\_\_\_ (2 marks)
- c. Distinguish between
- i. continuous and discontinuous variation
- \_\_\_\_\_ (2 marks)
- ii. complete and incomplete dominance
- \_\_\_\_\_ (2 marks)
- d. State any one disorder in human caused by gene mutation \_\_\_\_\_ (1 mark)
10. a. What is the meaning of an ecosystem?
- \_\_\_\_\_
- \_\_\_\_\_ (1 mark)
- b. How are the following adapted to terrestrial communities?
- i. xerophytes
- 1 \_\_\_\_\_
- 2 \_\_\_\_\_ (2 marks)
- ii. mesophytes
- 1 \_\_\_\_\_
- 2 \_\_\_\_\_ (2 marks)
- c. Study the **figure 4** and use it to answer the questions that follow



- i. How is A different from B?

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(1 mark)

- ii. Apart from the triangular shape, how is A similar to B?

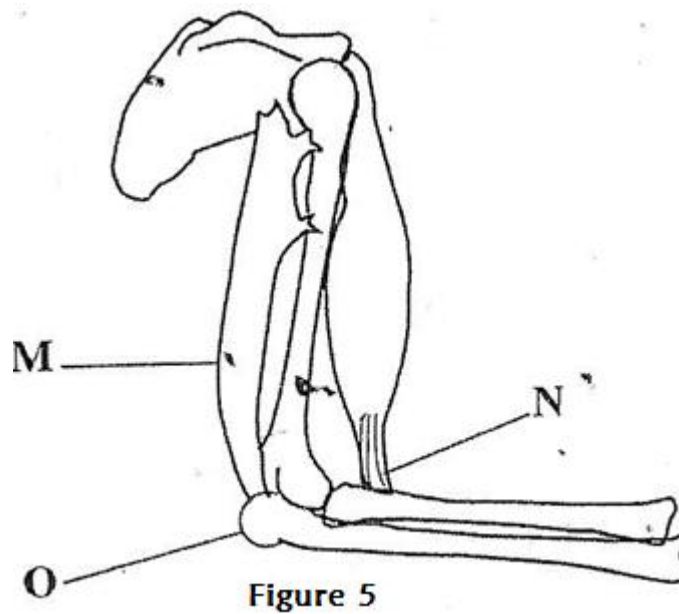
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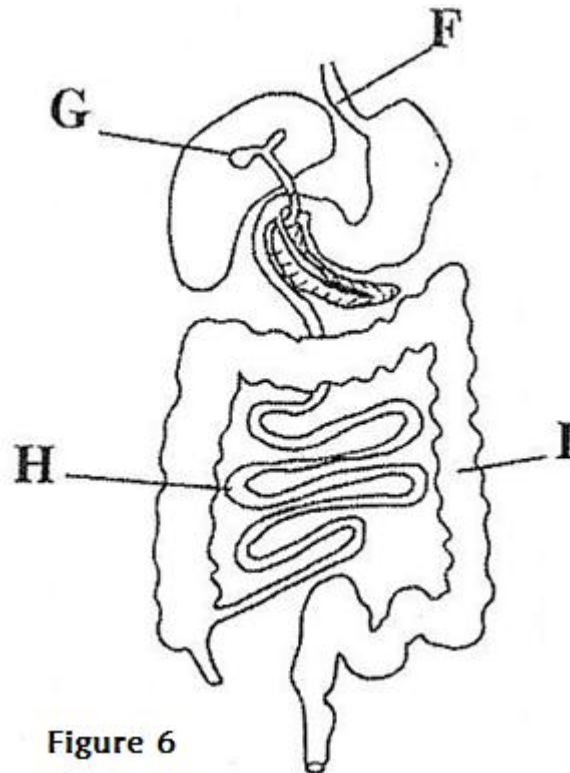
(1 mark)

11. **Figure 5** below shows muscles and joints of the human arm. Use it to answer the questions that follow.



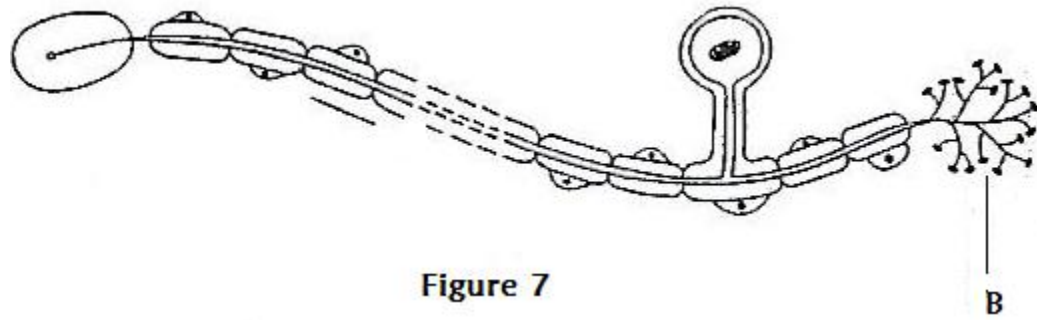
- a. Name the parts marked M and N  
M \_\_\_\_\_ N \_\_\_\_\_ (2 marks)
- b. State one adaptation of the part marked N to its function \_\_\_\_\_ (1 mark)
- c. What type of a joint is found at O \_\_\_\_\_ (1 mark)
- d. Explain how bending of the lower arm occurs  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_ (3 marks)

12. **Figure 6** below shows part of the human digestive system. Use to answer the questions that follow:



- a. Name the parts marked F and G.  
F \_\_\_\_\_ G \_\_\_\_\_ (2 marks)
  - b. State two observable adaptations of part marked H to its function.  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_ (4 marks)
  - c. State any **one** function of part marked I.  
\_\_\_\_\_  
\_\_\_\_\_ (1 mark)
13. a. What are neurons?  
\_\_\_\_\_  
\_\_\_\_\_ (1 mark)

- b. The diagram below shows a neuron. Use it to answer the question that follows:



- i. What type of a neurone is shown in the diagram **(1 mark)**

- ii. Give the function of the part labeled B
- \_\_\_\_\_
- \_\_\_\_\_ (1 mark)

- c. Name any other two types of neurones apart from the one in figure above
- \_\_\_\_\_
- \_\_\_\_\_ **(2 marks)**

14. a. List any two common effects of cancerous cells in the body
- \_\_\_\_\_
- \_\_\_\_\_
- (2 marks)**

- b. How can a person increase the risk of cancer in his/her body?
- (i) \_\_\_\_\_
- (ii) \_\_\_\_\_ **(2 marks)**

### Section C (20 Marks)

15. Describe briefly the process by which water enters the root hairs and escapes from the leaves at the top of a tall tree

This image shows a single sheet of white paper with horizontal blue ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

[illegible]

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10 marks

16. Describe an experiment that could be conducted to show that germinating bean seeds contain an enzyme that digests starch. Your answer should include procedure, expected results and conclusion.

[illegible]

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10 marks

*End of Question Paper*