



BIOLOGY 2

0710

CAMEROON GENERAL CERTIFICATE OF EDUCATION BOARD

General Certificate of Education Examination

JUNE 2000

ADVANCED LEVEL

Subject title	BIOLOGY
Paper No.	2 - Theory
Subject Code No.	0710

Three hours

Answer ANY FIVE out of the eight questions.

If more than five questions are answered, only the first five will be marked.

All questions carry equal marks. Marks allocated to parts of questions are indicated in brackets.

Illustrate your answers wherever desirable with large, clear and fully labelled diagrams.

You are reminded for the necessity for good English and orderly presentation in your answers.

In calculations, you are advised to show all the steps in your working, giving your answer at each stage.

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00/0710/2/C/Q

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Turn over



1.
 - a. Three stage involved in the release from a molecule of glucose are glycolysis, citric acid cycle (Krebs cycle) and electron transport system. What are the main processes involved in each stage?
 - b. Under what conditions will anaerobic respiration occur in;
 - (i) Yeast
 - (ii) A flowering plant
 - (iii) A mammal
 - (iv) How does exercise improve an athlete's performance during training?

(11, 7,2 marks) (Total = 20 marks)

2. Discuss the application of biotechnology in

- a. Drug production
- b. Food production
- c. Cell and tissue culture
- d. Enzyme production and
- e. Hormone production

(2, 8, 4,2,4 marks) (Total = 20 marks)

3.
 - a. What is a cell?
 - b. Describe how the structure of each the following is related to the functions performs.
 - (i) Parenchyma
 - (ii) A tracheid
 - c. Why does specialization of some plant cells result in the lass of the ability to divide?

(4, 12, 4 marks) (Total = 20 marks)

4.
 - a.
 - (i) Why is it necessary for a mammal to dispose of nitrogenous wastes?
 - (ii) Describe the process of urea formation in the liver.
 - b. With the of a labeled diagram, explain how the structure of the mammalian kidney nephron is adapted to its functions.
 - c. What is the importance of osmotic control?

(8, 9,3 marks) (Total = 20marks)

5. Explain how carbon dioxide expired by a becomes fixed by green plants and ends up as a component of glycogen in a herbivore of the same species.

(Total= 20marks)

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6.
 - a. Draw and label a diagram of the human eye as seen in the vertical section.
 - b. Explain the process of accommodation by which light from objects at different distances is brought to focus on the retina.
 - c. Explain the trichromatic theory of color vision.

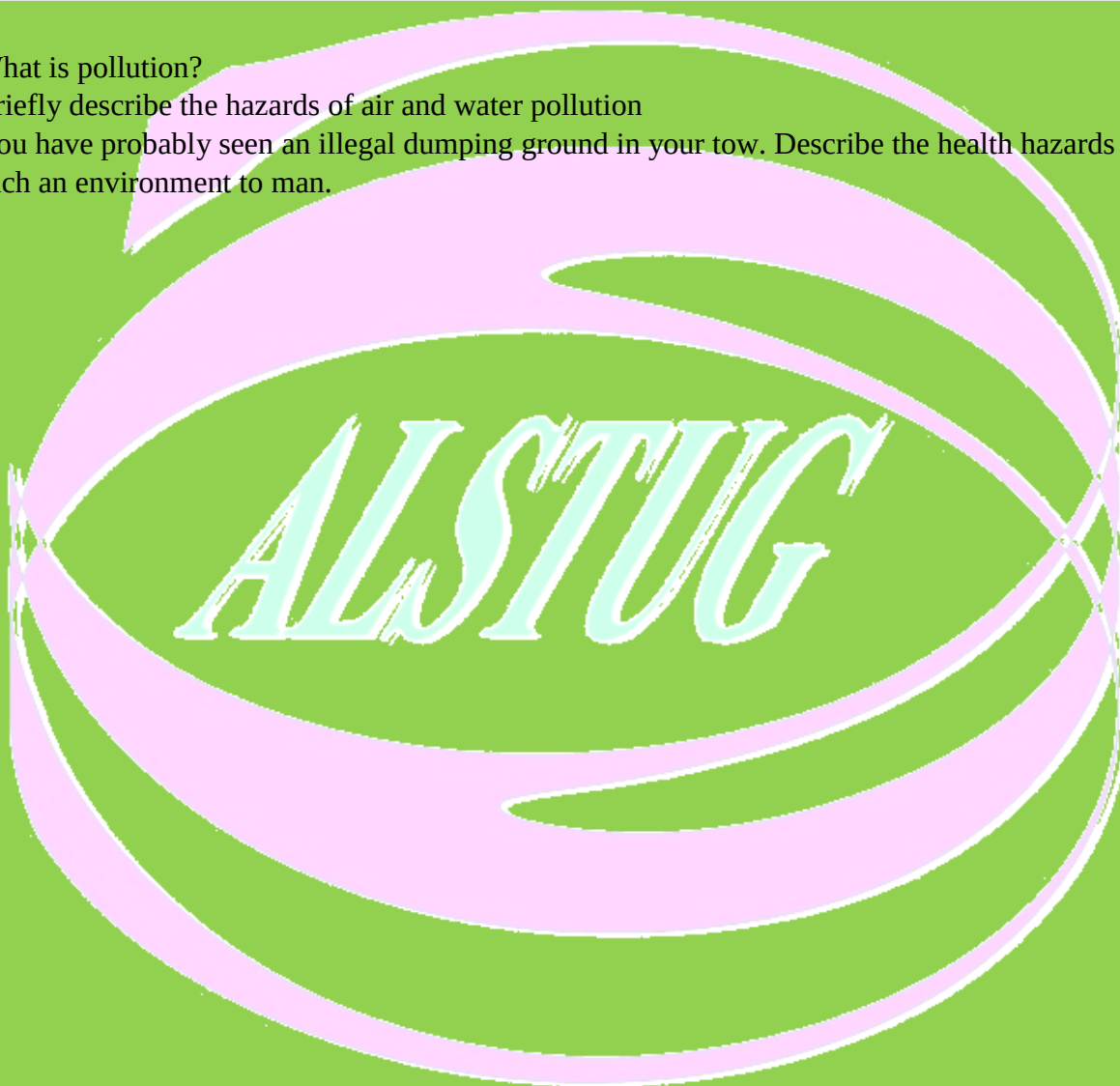
(6, 10,4 marks) (Total =20 marks)



- 7.
- Why do multicellular organisms need a transport system?
 - State three features shown by most circulatory systems
 - With the aid of annotated diagrams, show the pattern of blood flow in
 - Single circulation of bony fish
 - Double circulation of a mammal
 - State two advantages of double circulatory system.

(5, 3, 10, 2 marks) (Total = 20 marks)

- 8.
- What is pollution?
 - Briefly describe the hazards of air and water pollution
 - You have probably seen an illegal dumping ground in your town. Describe the health hazards posed by such an environment to man.



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