

BIOLOGY 2
710

CAMEROON GENERAL CERTIFICATE OF EDUCATION BOARD

General Certificate of Education Examination

JUNE 2015

ADVANCED LEVEL

Subject Title	BIOLOGY
Paper No./Title	Paper 2 Theory
Subject Code No.	710

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 of the necessity for good English and orderly presentation in your answers.

1. (a) (i) What is metamorphosis?
(ii) What advantages do insects acquire when they undergo metamorphosis in their life cycle?

(b) Using a specific example, explain the process of development in a named holometabolous insect.

(c) What role is played by hormones in the development of insects?

(6, 8, 6 marks)

(Total = 20 marks)

2. (a) Define an enzyme.

(b) State five properties of enzymes.

(c) Describe two mechanisms of enzyme action.

(d) Explain the factors that affect the rate of enzyme action.

(2, 5, 8, 5 marks)

(Total = 20 marks)

3. (a) Describe the five kingdom classification systems.

(b) (i) State five general characteristics of Phylum Arthropoda.

(ii) What is the economic and ecological importance of Arthropods?

(10, 10 marks)

(Total = 20 marks)

4. (a) State the natural defence mechanisms of the body against the entry of pathogens.

(b) What is the role of blood in defence?

(c) (i) Explain erythroblastosis foetalis.

(ii) What advice can you give to parents of an individual with erythroblastosis foetalis?

(10, 5, 5 marks)

(Total = 20 marks)

5. (a) (i) Explain the oxygen dissociation curve.

(ii) What is the effect of high CO₂ concentration on the oxygen dissociation curve?

(iii) Explain why the oxygen dissociation curve of foetal haemoglobin lies to the left of the oxygen dissociation curve of adult haemoglobin.

(b) Describe how lymph and tissue fluid are formed.

(10, 10marks)

(Total = 20 marks)

6. (a) (i) What are recombinant DNA molecules?
(ii) How can a recombinant DNA molecule be constructed?
- (b) Why are microorganisms suitable for industrial processes?

(12, 8 marks)
(Total = 20 marks)

7. (a) Distinguish between photosynthesis and chemosynthesis
- (b) (i) What are C₄ plants? Name two examples.
(ii) State the significance of the C₄ pathway of photosynthesis.
(iii) What would be the effect of increasing oxygen concentration in C₄ plant photosynthesis?
- (c) Differentiate between C₃ and C₄ plants.

(4, 11, 5 marks)
(Total = 20 marks)

8. (a) (i) Define the term conservation.
(ii) State reasons for conservation.
- (b) List four methods of conserving each of the following:
(i) Water;
(ii) Wildlife and
(iii) Forest.
- (c) List three forest/game reserves in Cameroon.

(5, 12, 3 marks)
(Total = 20 marks)