

# PAST GCE QUESTIONS MEETLEARN.COM

Cameroon GCE Board retains the full right as the creator and owner of these past questions. The questions as published on this site are to facilitate teaching and learning and should not be used for any commercial purpose whatsoever

*2009 Past GCE  
Advanced Level  
Biology Paper 2*

June 2009

- 1.(a) why are tissues fixed sectioned and stained before being viewed under a microscope ?  
(b) show how the structure of (i) Mitochondrion (ii) chloroplast , are adapted to their functions  
(c) State the main differences between plant and animal cells.  
(3, 11,6 mks)

2 .In Birds and mammals, the body temperature must be kept constant as well as other substances such as blood.

- (a) Why must these substances be kept constant?  
(b) Describe how each of them is controlled so as to maintain a steady state in these organisms.

3. (a) Xylem and phloem are tissues concerned with the translocation of inorganic and organic materials. For each tissue, describe the possible transport or translocation mechanism involved and comment on any structural adaptation that might be specially related to transport or translocation.

- (b) State briefly why large amounts of water are required by most plants  
(c) Outline the properties of water which make it very important to plants. (10, 6, 4 mks)

4. (a) What is a gene?  
(b) Describe the process of protein synthesis  
(c) How is protein synthesis controlled?

5. An alternate mechanism for fixing carbon dioxide occurs during photosynthesis in some plants called C4 plants. These plants possess a leaf structure which enables them carry out their functions properly,

- (a) (i) Describe the structure of the leaf of C4 plants which makes it adapted to this type of CO<sub>2</sub> fixation.  
(ii) What is the significance of the C4 pathway?  
(c) What would be the effect of increasing oxygen concentration on (i) C3 photosynthesis  
(ii) C4 photosynthesis? Explain your answer. (3,10, 7mks)

6. (a) What do you understand by alternation of generation?

(b) Draw the Life cycle of the fern and explain how it exhibits alternation of generation

(c) Why is water necessary for the life cycle of the fern?

7. The population of industrialized regions such as Douala are exposed to a lot of environmental hazards.

Identify four of these hazards and explain how they influence the population. (20mks)

8. (a) Explain the following terms as used in genetics, showing how each deviates from the normal Mendelian crosses: (i) Linkage (ii) Co-dominance (iii) Epistasis ;

(b) In oats the grain is enclosed by the flower called Hull. Two pure breeding varieties of oat plants—one black luled and the other white luled were crossed. All F<sub>1</sub> individuals were all grey luled, When they were selfed, the following results were obtained:

Black luled = 418

Grey luled = 106

White luled = 36

Using suitable letters to represent the alleles, make the cross using a Punnett square. How does this ratio deviate from the expected Mendelian ratio?

(c) Outline precisely the problems involved in measuring growth in multicellular organisms.

(8, 8, 4 mks)