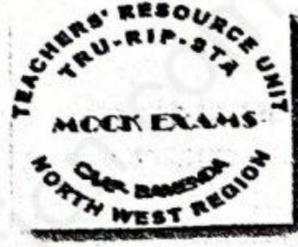


REPUBLIQUE DU CAMEROUN  
Paix-Travail-Patrie

MINISTRE DES ENSEIGNEMENTS SECONDAIRES

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REPUBLIC OF CAMEROON  
Peace-Work-Fatherland

MINISTRY OF SECONDARY EDUCATION

TEACHERS' RESOURCE UNIT  
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MARCH 2022

The Teachers' Resource Unit and the Regional Inspectorate of Pedagogy in collaboration with STA	SUBJECT CODE NUMBER 0710	PAPER NUMBER 2
GENERAL CERTIFICATE OF EDUCATION REGIONAL MOCK EXAMINATION	SUBJECT TITLE BIOLOGY	
ADVANCED LEVEL		

**Time Allowed: THREE hours**  
**INSTRUCTIONS TO CANDIDATES**

Mobile phones are **NOT ALLOWED** in the examination room.

**Answer any FIVE questions**

*All questions carry 20 marks each. For your guidance, the appropriate mark for each part of a question is indicated in brackets.*

*Illustrate your answers wherever desirable with large, clear, fully labeled diagrams.*

*You will be marked on your ability to use good English, to organize information clearly and to use specialist vocabulary where appropriate.*

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

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

1. a) (i) what is ATP?  
(ii) How is it important to the cell?  
b) Outline the main stages involved in the release of energy in a glucose molecule in aerobes.  
c) How does exercise improve an athlete's performance during training?  
**(5, 12, 3marks =20marks)**
- 
2. a) Explain the term homeostasis  
b) Describe the homeostatic control of:  
(i) blood glucose level,  
(ii) temperature  
(iii) growth and development in insects.  
**(3, 6, 6, 5 marks=20 marks)**
- 
3. a) Draw a large labeled diagram of the mammalian heart.  
b) Describe the cardiac cycle in the circulation of blood.  
c) How is the heartbeat regulated?  
**(7, 8, 5 marks = 20marks)**
- 
4. a) What is the cell cycle?  
b) With the aid of annotated diagrams only briefly describe the behavior of chromosomes at mitosis in an animal cell.  
c) How is the above division different from meiosis?  
**(4, 10, 6 marks= 20 marks)**
- 
5. a). Using suitable examples, differentiate between the following pairs:  
(i) Genotype and phenotype  
(ii) Complete dominance and co-dominance  
(iii) Gene and allele  
(iv) Epistasis and polygenic inheritance.  
(v) Homologous and Homozygous  
b) The gene for the bleeder disease, haemophilia, is sex-linked. The gene is recessive. Choosing suitable symbols write down the possible genotypes for a man and woman.  
c) A couple both normal have a haemophiliac child. Explain how this can happen and what must be the sex of the child.  
**(10, 5, 5marks =20marks)**
- 
6. a). Define the term Neo-Darwinism.  
b). State **five** pieces of evidence for the theory of evolution.  
c). Distinguish clearly between the following pairs, giving examples in each case.  
(i) Homologous structures and analogous structures  
(ii) Convergent evolution and parallel evolution  
(iii) Phenetic and phylogenetic classification.  
**(2, 10, 8 marks =20 marks)**
- 
7. a) Explain the term biotechnology.  
b) Distinguish clearly between batch culture and continuous culture.  
c) Using suitable examples outline the biotechnological processes involved in the production of:  
(i) yeast fermentation.,  
(ii) lactic acid fermentation.  
**(4, 4, 6, 6 marks= 20 marks)**
- 
8. a). Explain the term ecosystem.  
b). Describe the flow of energy in an ecosystem.  
c). Trace the possible inter-relationships that may exist between organisms in a named ecosystem.  
d). Why is it not advisable to kill living organism indiscriminately?  
**(3, 5, 2, 10 marks = 20 marks)**

END

Characters