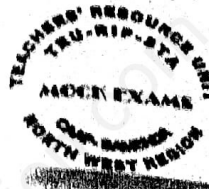


REPUBLIQUE DU CAMEROUN
Paix-Travail-Patrie
 MINISTÈRE DES ENSEIGNEMENTS SECONDAIRES
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REPUBLIC OF CAMEROON
Peace-Work-Fatherland
 MINISTRY OF SECONDARY EDUCATION

TEACHERS' RESOURCE UNIT
 REGIONAL BRANCH FOR THE NORTH WEST

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MARCH 2023	The Teachers' Resource Unit and the Regional Inspectorate of Pedagogy in collaboration with NASTA	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) Draw a large labeled diagram of an HIV Virus. (10marks)
 (b) How does this virus enter the human body? (3marks)
 (c) Describe its life cycle and state how an HIV infection shatters the immunity of the victim? (7marks)
 (Total=20marks)
-
2. (a) Explain the following terms as used during DNA replication (2marks)
 (i) Template (2marks)
 (ii) Semi conservative (2marks)
 (iii) Continuous replication (2marks)
 (iv) Discontinuous replication (2marks)
 (b) What are the functions of the following in making a polypeptide? (2marks)
 (i) mRNA (2marks)
 (ii) tRNA (2marks)
 (iii) ribosomes (2marks)
 (iv) amino acids (2marks)
 (c) (i) State one major difference between transcription and translation. (2marks)
 (ii) How are both processes important? (2marks)
 (Total=20marks)
-
3. (a) Draw a large labelled diagram of the urinary system in man (6marks)
 (b) Clearly differentiate between Homeostasis and Osmoregulation (4marks)
 (c) How is Osmoregulation controlled in a (5marks)
 (i) fresh water amoeba (5marks)
 (ii) fresh water bony fish (5marks)
 (Total=20marks)
-
4. (a) What are the advantages and disadvantages of sexual reproduction? (5marks)
 (b) Explain how fertilization is brought about in a human (10marks)
 (c) State five effects of alcohol on a human foetus (5marks)
 (Total=20marks)
-
5. (a) How is a nerve impulse generated and carried along the axon of a nerve fibre? (10marks)
 (b) What are the advantages of an axon being myelinated? (5marks)
 (c) Compare the sympathetic and parasympathetic nervous system (5marks)
 Total=20marks
-
6. (a) Define the following genetic terms giving examples in each case. (2marks)
 (i) Continuous variation (2marks)
 (ii) Discontinuous variation (2marks)
 (iii) Heterozygous (2marks)
 (iv) Homozygous (2marks)
 (v) Epistatic genes (2marks)
 (b) The comb in different breed of poultry is controlled by 2 pairs of alleles. When a purebreed rose combed fowl of genotype RRpp is crossed with a purebreed pea combed fowl of genotype rrPP, all the offspring produced a variety of combs generally called the walnuts.
 When 2 walnut combed fowls were crossed among themselves, they produced off springs which show the 3 types of comb above plus an additional comb called the single combed.
 Carryout a cross using the symbols provided to show the possible genotypes of the different breeds of fowls. (10marks)
 (Total=20marks)
-
7. (a) Define the following ecological term. (2marks)
 (i) Ecological niche. (2marks)
 (ii) Zonation (2marks)
 (iii) Climate change (2marks)
 (b) Give explanations to the various ways in which the following factors influence the distribution of organisms in an environment. (5marks)
 (i) Light (5marks)
 (ii) Temperature (5marks)
 (iii) Topography (4marks)
 (Total=20marks)
-
8. (a) (i) Differentiate between biotechnology and genetic engineering. (2marks)
 (ii) State 5 applications of biotechnology in our daily lives (3marks)
 (iii) What characteristics do microorganism have that enables them to be used in biotechnological processes? (2marks)
 (b) Explain how gasohol is produced industrially from sugarcane? (8marks)
 (c) What is the importance of having transgenic organisms in the society? (5marks)
 (Total=20marks)

END