

P530/2
Biology
Paper 2
July 2019
2½ Hours

MOCK EXAMINATIONS, 2019

Uganda Advanced Certificate of Education

BIOLOGY

Paper: 2

Time: 2 Hours 30 Minutes

Instructions to candidates

This paper consists of Sections **A** and **B**

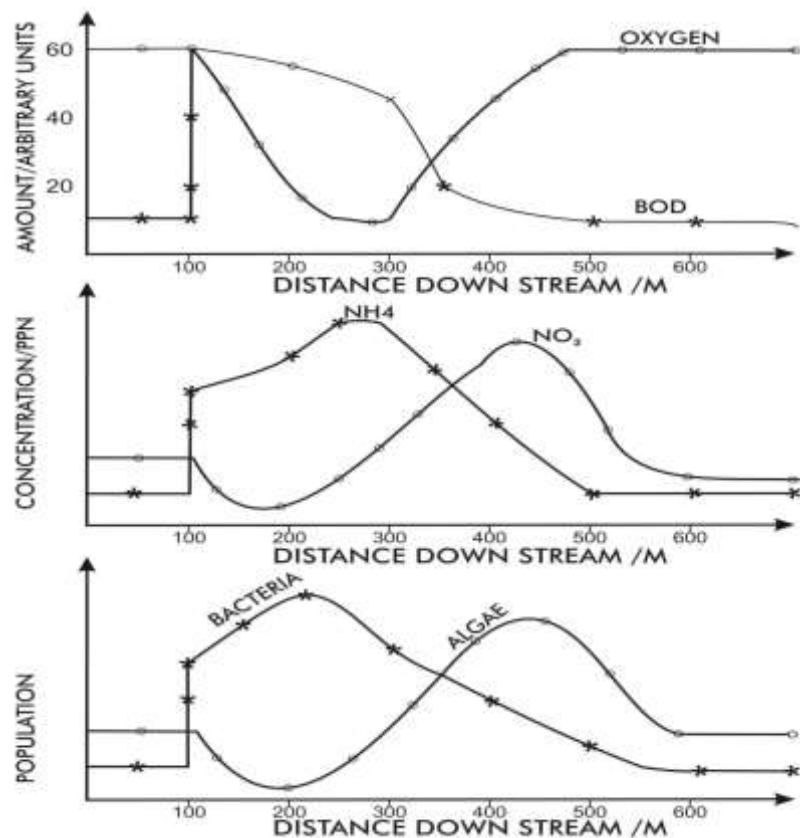
Answer question one in **Section A** plus three others from **Section B**

Candidates are advised to read the questions carefully, organize their answers and present them precisely and logically, illustrating with well labeled diagrams wherever necessary.

SECTION A (40 MARKS)

1. The graphs below indicate the effect of sewage discharge at 100 meters of the river towards its biotic and abiotic environments.

Study them carefully and answer the questions that follow.



a) Define the term Biochemical Oxygen Demand (02 marks)

b) Explain the effect of sewage discharge towards;

i) Oxygen,

ii) BOD, stream, downstream

(10 marks)

c) Account for the changes in the concentration of;

i) Ammonium ions,

- ii) Nitrate ions, downstream *(12 marks)*
- d) Account for the changes in the population of;
 - i) Bacteria,
 - ii) Algae, downstream *(12 marks)*
- e) Suggest any four likely effects of the population changes of algae to the river between 200m – 450m, when it occurs for a long period of time, downstream *(04 marks)*

SECTION B (60 MARKS)

- 2. a) Describe the hormonal control of post – fertilization changes in human female up to breast feeding *(15marks)*
 - b) How is the viability of the sperms in humans maintained? *(05 marks)*
- 3. a) Describe the changes in the;
 - i) pressure potential,
 - ii) water potential of the plasmolysed plant cell when inserted in a hypotonic solution *(12 marks)*
 - b) Account for the negative water potential of any solutions. *(08 marks)*
- 4. a) Explain the changes which occur to the bitten part of the human body by the wasp *(10 marks)*
 - b) Describe how the B lymphocyte defend the body against infections *(10 marks)*
- 5. a) What is meant by phytochromes? *(05 marks)*
 - b) Describe the control of flowering in tobacco by the phytochrome *(07 marks)*
 - c) Describe geotropism in plants *(08 marks)*
- 6.a) What is meant by positive feedback? *(02 marks)*
 - b) Explain positive feedback during;
 - i) nervous transmission
 - ii) parturition *(10 marks)*
 - c) Explain how the deviation of thyroxine level in blood is reduced to the norm *(08marks)*

******End******