

# MENTOR HIGH SCHOOL KITENDE

## UGANDA ADVANCED CERTIFICATE OF EDUCATION (UACE)

END OF TERM 1 EXAMS 2025

S.5 BIOLOGY

TIME 2 ½ HOURS

NAME .....SIGN.....

### INSTRUCTIONS

Attempt all items

#### Item 1

John is a 50-year old man who recently started a routine health-up. His doctor informed him that his blood test showed elevated levels of fats and cholesterol. The doctor advised him to make a dietary and life style changes to manage his lipid profile.

- (a) Based on John's lipid profile, what potential risks might he face if no changes are made? (2 scores)

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- (b) As a student who has studied chemicals of life, explain how lipids are formed in John's body. (4 scores)

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## Item 2

Kagimu a 7 year old boy was sent at the shop to buy cooking oil by the mother, on his way back home unfortunately he was knocked by a stone and he fell down. On his surprise, he recognized that the cooking oil he bought was almost finished on the ground. He decided to add water in the remaining cooking oil to avoid problems from his mother, however on his surprise he saw another layer forming between the cooking oil and water the thing that puzzled his mind.

- (a) Help Kagimu to understand what was puzzling his mind according to the scenario ( 6 scores )

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(b) Help Kagimu to understand the possible ways how water can dissolve and also understand the property of water exhibited. ( 5 scores )

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(c) Further assist Kagimu to understand the structure of water. ( 4 scores)

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### Item 3

John a fisherman in Busabala was carrying out his activities very early in the morning, on his surprise he observed some birds walking on the surface of water which puzzled his mind.

He has come to you for an explanation



(a) Help John to understand what was puzzling him according to the scenario. ( 5 scores )

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(b) Help John to understand other physical properties of water and how they are related in biological systems ( 7 scores)

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#### Item 4

In their discussion, Opio told Ochaya that proteins are health giving foods and they contain amino acids which are buffers. This confused the mind of Ochaya because he could not understand the meaning of the word buffer. He has approached you for guidance.

Help Ochaya to understand the meaning of the word said according to the scenario. (02 scores)

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(b)Further explain to Ochaya how amino acids act as buffers (5 scores)

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(c) Basing on different structures of the proteins, how are they of great value in living organisms (6 scores)

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END

SUCCESS IS NOT FINAL, FAILURE IS FATAL: IT IS THE COURAGE TO CONTINUE THAT COUNTS.