

NAMESTREAM.....

Uganda Certificate of Education

END OF TERM II EXAMINATIONS 2023

S.3 BIOLOGY 553/1

(Theory)

1Hours 30 Minutes

INSTRUCTIONS

- Answer all questions

1. Enzymes are one of the biological substances that are very important during digestion of food in our digestive system and other biological process.

a) (i) What does the term '**enzyme**' mean? (2marks)

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(ii) Why does your digestive system need enzymes? (2marks)

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- b) Moses left a beaker of hydrogen peroxide (a substrate) exposed, a few bubbles were produced. When he added a piece of liver (liver contains enzyme catalase), the bubbles were too much, filling up the beaker.

(i) Explain in detail what the liver enzyme, catalase did to hydrogen peroxide in order to produce very many bubbles. (4marks)

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- (ii) Name any **two** other examples of enzymes and give the substrates on which each enzyme work. (2marks)

Enzyme	Substrate worked upon

c) After 10minutes, effervescence (formation of bubbles) stopped.

- (i) If you were Moses, which other **three** conditions would you provide to ensure the reaction continues. (3marks)

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- (ii) How would each of the factor you have mentioned above affect the process? (3marks)

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- (iii) By show of graphs, illustrate how any **two** of the above factors affect the reaction. (4marks)

2. After the digestion of food in your alimentary canal, the products are transported via your transport system (circulatory system).

a) (i) What could be the components of your body's transport system?

(3marks)

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(ii) Apart from food nutrients, which other **three** substances does your transport system carry in your body?

(3marks)

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b) Mr. Mutebi is a known young rich man in a certain village who is fond of living a sedentary life and he's becoming addicted to alcohol and shisha.

(i) State the likely circulatory problems that Mr. Mutebi is most likely to encounter at later stage of his life?

(3marks)

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- (ii) Briefly advise Mr. Mutebi on how he should live in order to prevent the suggested problems. (4marks)

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- c) Catherine got a boda boda accident and she lost a lot of blood through bleeding. She was rushed to a nearby clinic and the nurse said, “*Catherine needs blood*”. Catherine already knew her blood group as **B**.

- (i) Why is Catherine of blood group **B**? (2marks)

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- (ii) Suggest the possible donors of blood to Catherine. (2marks)

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- (iii) How blood was be given to Catherine? (1mark)

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- (iv) What benefit did Catherine benefit from the above? (2marks)

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3. You are well aware that; it is us (humans) who are causing low crop yields from our soil because we make it loose its fertility. Identify the following human activities in the pictures and state how they lead to loss of soil fertility. (10marks)

Photo	Activity in the picture	Effect on soil
		
		
		
		
		

