

UGANDA CERTIFICATE OF LOWER SECONDARY EDUCATION

S.3 P533/1 BIOLOGY (THEORY)

END OF TERM 1 2023

TIME: 1 $\frac{1}{2}$ HOUR

Attempt all questions

1. Water, air, organisms and mineral are some of the components found in soil but many small-scale farmers in Uganda are not away of their quantity in soil and the role they play in crops' growth and yield.

a) State the type of soil that contains the required components for proper crop yield in Uganda. (01mark)

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b) Explain two soil properties that make the type of soil you stated above to have the required components. (06 marks)

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c) State three methods that local communities can use to conserve the water, air and organisms in the soil. (03 marks)

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2. Some of the methods by which materials move in and out of cells are: Diffusion, Osmosis, Active transport

a) State which one of the three methods only takes place in living cells. (01 mark)

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b) Complete the table below by stating how the methods of transport are important in plant and animal. (06 marks)

Transport methods	Importance	
	In plants	In animals
Active transport		
Diffusion		
Osmosis		

c) Plants loose much needed water to atmosphere by the process of transpiration.

i) State two advantages of transpiration to plants. (02 marks)

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ii) Describe two ways how plants have adapted to reduce the rate of transpiration. (02 marks)

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3. A poster below shows youth smoking tobacco and marijuana



a) Suggest the two most likely reasons why youth in Uganda smoke tobacco or marijuana. (01 mark)

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b) Name the exact part in the respiratory system which is most likely destroyed by the smoking. (01 mark)

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c) Explain to the youth how the named part in (b) is destroyed (changed from the normal) by the smoking of tobacco and marijuana. (06 marks)

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d) State two differences between inhaled and exhaled air in human. (02 marks)

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4. a) Briefly explain the following terms as they take place in living things.

i) Aerobic respiration.

(02 marks)

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ii) Photosynthesis.

(02 marks)

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b) Using the knowledge of respiration and photosynthesis, discuss why is it necessary for every school to have many plants in the compound.

(04 marks)

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c) Under what circumstances do humans respire anaerobically.

(01 mark)

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d) State two applications of anaerobic respiration in everyday life.

(01 mark)

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6. HIV, COVID-19, CASSAVA MOSAIC and EBOLA are diseases caused by **viruses**!

a) State why viruses are not considered to be living things? (02 marks)

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b) Viruses are hard to prevent. But some methods are more effective in reducing their transmission/spread. State **four** ways which can reduce the spread of the **two** named diseases caused by viruses. (08 marks)

Disease		
Methods		

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