TENDER TALENTS MAGNET SCHOOL

UGANDA CERTIFICATE OF LOWER SECONDARY EDUCATION

END TERM ONE EXAMS 2024

**Senior two** BIOLOGY PAPER ONE

**TIME: 2 :30HOURS**

INSRUCTIONS

*This paper consists of* **seven** *examination items. It has two sections;* **A** *and* **B***.*

*Section* **A** *has* **three** *compulsory items.*

*Section* **B** *has two Parts;* **I** *and* **II***. Answer* **one** *item from each part.*

*Answer* ***five*** *items in all.*

*Any additional item(s) answered will not be scored.*

**Section A**

**(Answer all items from this section)**

**Item 1**. The figures below show soil samples A and B collected by senior two

students. Study them carefully and answer the questions that follow.



**a)** Identify each soil sample and give reason for each. (04marks)

Soil sample A…………………………………………………………………

Reason……………………………………………………………………………………………………

Soil sample B…………………………………………………………………

Reason ………………………………………………………………………………………………………

**b)** Equal of volumes of the soil were put in a funnel resting on a beaker and then 20cm3 of water was poured into them. The volume of water collected was then determined

|  |  |  |
| --- | --- | --- |
| Soil sample | Volume of water added (cm3) | Volume of water collected(cm3) |
| A | 20 | 8 |
| B | 20 | 15 |

i) Identify the property being investigated in part (b).(01mark)

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ii) Calculate the percentage of water retained by each soil sample. (03mark)

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iii) From the above results in b(ii), state the soil sample suitable for plant growth and give a reason for your answer. (02marks)

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**Item 2** The photographs below are Arthropods collected by students on their ecological tour. Study them carefully and answer the questions that follow.

a) Name the class to which X, Y and Z belong. (03marks)

X…………………………………………………………………………...

Y…………………………………………………………………………….

Z…………………………………………………………………………….

b) How is organism Y economically important to man? (02marks)

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c) Give 3 harmful effects of X (03MarKS)

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**d)** With reasons, identify two modes of locomotion of Y (02Marks)

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e) Basing on the pictures, how is X structurally different from Y.

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**Item 3.** All leaves have common primary function, but some leaves are modified to perform specific function. Study the figures below of modified leaves and answer the questions that follow



a) Briefly describe how each leaf is modified to perform its function

Leaf A (02marks)

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Leaf B. (02marks)

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Leaf C. (02marks)

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b) Explain Why plants leaving in deserts have small leaves. (02marks)

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**SECTION B**

**Part I**

*Answer only* **one** *item from this part. Answers should be written in the answer booklet(s) provided.*

**Item 4.** In the recent years**, Namikamba** Village started developing at a very high rate. Most of the people in that village have been employed in the newly established **paper processing industry**, **Diary processing industry**, **Oil refinery** and **charcoal burning**. During a heavy rain, the big portion of land of Namikamba region was observed to have developed **very big tunnels** that even started to accommodate large volumes of water.

a) Identify the process that caused the development of tunnels in the soil. (02marks)

b) What could have caused the land of Namikamba to appear in that way after heavy rain. (10marks)

c) How can you advice people of Namikamba such that rest of their land is not affected the same. (08marks)

**Item 5.** Malaria is the leading disease that affect people mainly in the tropics. It is caused by **organism X** that is transmitted by the female anopheles’ mosquito. (03marks)

**a)** Identify organism X and state why it mainly affects people from the tropics (03marks)

**b)** Why is organism X transmitted by the above mentioned vector?

**c)** How would you advice people from your community to avoid dangers of malaria.

**Part II**

***Answer only* one *item from this part. Answers should be written in the answer booklet(s) provided.***

**Item6** Use the pictures below to answer the following questions.



a). (i) Identify the organisms in the above diagram.

ii). with reasons, identify the life processes carried out by the above organisms.

iii) How is the above life process beneficial to the above organisms?

b). (i) Give any other life processes apart from those demonstrated in the above diagram.

ii). You are in a community around a grassland. There is a lioness which always come at night and attack the livestock of the locals. The locals are planning to attack and kill the lioness because they are fade up with the losses. You are a Biologist who is interested in conservation, prepare to sensitize the angry

**Item 7** Soil nutrients are essential to plants; animals as well for their survival depend on these nutrients. However, nutrients available in the soils have to be obtained in the easiest way possible by plants. In Wayisi village, there is dumping of used parts of vehicles and oils from vehicle engines. Plant growth in this part has become very low. Research conducted on sample animal meat obtained from this village has also shown presence of heavy metals and traces of hydrogen cyanide poisons. The local leaders are not so concerned regarding the prevailing conditions as they lack idea pertaining the situation.

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