

EBENEZER SECONDARY AND VOCATIONAL SCHOOL MUTUNGO

BEGINNING OF TERM III EXAMS 2024

S.3 BIOLOGY PAPER 1

TIME 2:30HRS

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

INSTRUCTIONS

ATTEMPT ALL ITEMS

ITEM 1

Mr. Okello's sorghum plants were growing under a shade of a tree and were very thin . When the shade was removed by pruning the tree, the plants curled their leaves and became hairy and weak. The leaves also turned yellow with purple margins and the roots became stunted but the plants survived . However , upon receiving rains, the plants recovered and gave a high yield.

Task

(a)Which challenges did the plants face? (4 scores)

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(b)Explain how the plants were able to survive amidst the challenges. (5 scores)

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(c)How were the plants able to recover and give a high yield? (6 scores)

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ITEM 2

Mr. Godfrey is a smart family man who lives in a green environment. He built his family house on a hill in order to capture the gentle breeze and the sun rays of both sunrise and dawn. His bed room found at the East end of the house receives radiant sun rays whenever its windows are open. He has a number of potted plants in his large bed room which he shares with his wife and a set of twins.

During the day, Mr. Godfrey opens his bed room window, and the radiant sunrays of the morning sunshine received by the potted plants in the room create fresh and well aerated serene conditions. He often waters his plants as he enjoys the fresh atmosphere in the room.

During the night however, Mr. Godfrey has had strange observations in his bed rooms:

They always suffocate whenever all windows are fully closed.

The bedroom is warmer at night and deficient of any fresh air

One day, the twins were rushed to the hospital in the night and were diagnosed of limited oxygen supply to the body.

The doctor's recommendation was that Mr. Godfrey removes all the potted plants from his bedroom. This did not go well with him, and also remained resistant to do what the doctor had said.

SUPPORT MATERIAL



Task;

As a scientist, suggest a suitable explanation to help Mr. Godfrey understand the circumstances surrounding his home and justify the doctor's recommendation. (15 scores)

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ITEM 3

Kiplimo, a long -distance athlete, trains at a high altitude in the mountains and this has increased his performance with time. On day of the race, he had a heavy carbohydrate meal and then started to warm up in preparation for the race.

Kiplimo competed favorably, but towards the end, he developed muscle cramps and was breathing profusely. He however endured the cramps until he won the race. After the race, his profuse breathing continued, while the muscle cramps progressively receded.

SUPPORT MATERIAL





Task

(a)How does training in the high mountains increase Kiplimo's performance? (5 scores)

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(b)Explain how the body utilized the morning meal to enable him win the race. (5 scores)

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SECTION B (attempt all items)

ITEM 4

Lukwago , a 10-year old boy , had an accident as he was moving from school to home on a motor cycle . He had severe bleeding and lost a lot of blood which made him unconscious.

Following close examination, the doctor decided that he needed an immediate blood transfusion. Lukwago is of blood group **B** and present at the hospital are Lukwago's mother of blood group **A**., his elder sister of blood group **AB** and his young brother of blood group **O**.

SUPPORT MATERIAL



TASK

Work out the possibility of each of John's relatives to successfully transfuse blood to him, and suggest remedies that could save his life. (20 scores)

ITEM 5

Kafeero , a senior four student whose family lives in Namanve industrial area , has been smoking since he joined peer groups. Recently, he was having difficulty in breathing and sometimes he produces wheezing sound when breathing out. His mother and young brothers do not smoke but they have the same complications like kafeero. These suspect their clan members in the village to be sending witchcraft to kill them.

SUPPORT MATERIAL



Task

As an educated biology student, give a detailed piece of advice to the family of kafeero that will convince them to stop suspecting witchcraft from relatives. (20 scores)

END

**Yesterday's failures are today's seeds that must be diligently
planted to be able to abundantly harvest tomorrow's success.**