**EBENEZER SV**

**END OF TERM ONE CBC EXAMINATIONS**

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| **Class** | **Sign** |
| **S. 3** |  |

**Name: ……………………………………………………………**

BIOLOOGY(Theory) **Paper 553/1**

APRIL 2024

2hours

**INSTRUCTIONS.**

• **This paper consists of ONE section**

• **Attempt all ITEMS from section A** •

***ITEM 1***

Joseph was suspended from school as a result of drinking alcohol. He engages in heavy drinking of alcohol in the nearby trading centre. One day , as john approached a swamp on his way home staggering from drinking alcohol at 5:00 pm, he encountered a snake . His heart started beating faster and his breathing rate increased . He tried to pick a nearby stick but he could not get hold of it on several attempts, so the snake escaped.



FIG.2 shows Joseph walking home from drinking alcohol.

Task

a.Describe how Joseph’s body coordinated to bring about his reactions from the time he encountered the snake up to when his rate of breathing increased.

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b. What are the likely effects of John’s lifestyle as described in the scenario?

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***ITEM 2***

***In animals glucose is broken down to produce energy in body cells liberating carbon dioxide,water and energy(ATP) in presence of oxygen while carbon dioxide and lactic acid are produced in limited supply of oxygen /no oxygen***

***The lactic acid produced accumulates in blood until wen its oxidized/broken down later during oxygen debt***

***A group ATHLETES were performing an exercise,they started by worming up and later vigorous running/splinting there after rested ,***

***SUPPORT***

******

***The graph bellow show the amount of lactic acid produced during the time of the exercise***

C

30 20 10 0

AMOUNT OF LACTIC ACID

(moldm3)

0 5 10 15

**TIME IN MINUTES**

D

B

A

(a)(I)What do points on the graph represent;

1. B……………………………………………………….
2. C.……………………………………………………
3. D.………………………………………………………

(ii)which points on the graph represent

(i) start of exercise

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(ii)muscle fatigue /end/stop of exercise

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(iii)recovery period

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(iv)oxygen debt

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(b)why is the amount of lactic acid;

(i)increasing slowly between A-B

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(ii) increasing rapidly between BC

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(iii) decreasing rapidly/faster between C-D

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Part II

**Item 3**

In preparation for an inter-house competition, Shakirah , a 40kg female athlete ate a meal containing 470g of carbohydrates in the morning, She believes the meal will help her perform better during the competition. However , her young brother does not seem to understand how the meal will contribute to Shakirah’s success. Shakirah finally won the competition but experienced muscle cramps . She rested for 20minutes , returned home walking but the brother wondered how she still had the strength to walk home after the competition.

[The recommended daily carbohydrate intake for a 40kg female athlete is (280-480g)]





Task

Explain to Shakirah’s brother the processes that the meal she ate went through to enable her win the race, be able to come back home and how her body regained the normal state. (**20 sores)**

Item 4

Helmont , a Belgian scientist, long ago keenly observed the behavior of plants. One day , using clay pots filled with 10kg of dried soil, Helmont was able to grow things. The pot was moistened with rainwater before some tomato seeds were planted. Tomatoes love heat. The tomatoes did not really start to grow until both the soil and air temperatures were consistently warm. The plants received rain until harvest. The mass of the seeds was 800gm. Four months after planting, the plant fruited. When dried, the harvested material had a mass of 12kg; while the dust in the in the clay pot, which had remained closed, was found to weigh 9kg. Therefore, the tomato stem , leaves, fruits and flowers had come from water only. The scientist this very impotant.

Support material



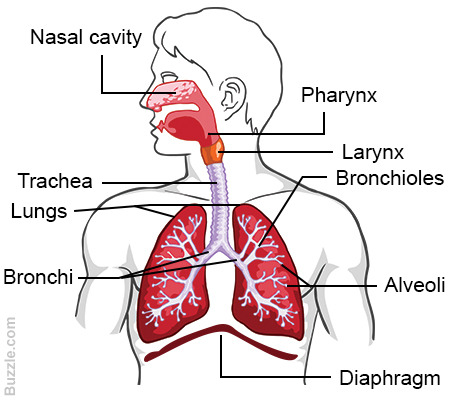
Task

As a biologist who is interacting with learners, you must understand what was wonderful. Write a speech on how plants increase in size to produce leaves , stems and fruits. (10scores)

Item 5

Zuria was wondering how we can be able to survive without dying. She was advised by Hellen that we carry out gaseous exchange through breathing in oxygen and passing out carbondioxide. She further asked how we eliminate carbondioxide from our body and how that carbondioxide accumulate in the body.(10scores)

Support material



TASK

a)Briefly explain to Zuria how carbondioxide gas is eliminated from the body

b). Disinguish between excretory waste products and nitrogenous wastes giving examples in each case.(3 scores)

END

NO SWEAT ,NO SUCCESS