

# **BIOLOGY FORM FOUR REVISION ITEMS.**

## **Item 1.**

Mr. Joseph was feeling general body weakness. He went to the hospital and a blood sample was taken from him and observed that his blood contained organisms that could not reproduce outside the Mr. Joseph's cells but only when inside his cells.

- a) Identify the organisms
- b) The organisms identified above have both properties of living things and non-living things. State characteristics which are used to classify the organisms as i) living-things ii) Non-living-things.
- c) Name any 3 diseases caused by such organisms in human beings and state how each of the above diseases is transmitted, its symptoms and prevention.

## **Item 2.**

Students of S.1 went in a school garden. They uprooted whole mature plants of maize and beans. They were given a task of identifying which of the two plants is a dicotyledonous or monocotyledonous plant. There arose a disagreement between them on which is a dicot and monocot. As a S.2 student who has studied biology of the phylum Angiospermatophyta, how can you settle the disagreement?

## **Item 3.**

Mr. Waiswa is a builder. He wanted to know how organization of body cells works by relating them to his work. He joins bricks to form a wall, walls to form rooms, rooms to form a house and houses to form a village. As a student who has studied cell organization; Explain what a brick, wall, room, house and villages represent. Define each and give 3 examples of each level present in your body.

## **Item 4.**

Mrs. Jane is a farmer in kabale, she grows tomatoes. As she was in the garden, she observed bees flying from one flower to another flower on the same plant. She wanted to know exactly the roles of the bees especially during the flowering season. As a student who has studied importance of insects in plant growth and development, answer the questions that follow.

- a) (i) What process was being performed by the bees?  
(ii) What type of the process named in a(i) was taking place, give a reason for your answer?
- b) State the characteristics of the plants in which the process named above is carried out by insects.
- c) State the advantages of the type of the process named in a(ii) above.
- d) At the end, madam Jane saw that some flowers did not put on fruits, what could be the cause of the failure of the flower to bear fruits.

## **Item 5.**

- (a) Your father was moving around the home compound. He came across a lizard, goat and a duck. He wanted to know the phylum, classes and characteristics which put those organisms in the same phylum and different in classes. As a biology student who has studied classification, how can you help your father achieve the above?
- (b) A biologist was making research into the structure and function of organisms. He isolated tissues from plants and animals and discovered a great variety of structure of cells. He asserted that these differences in structure relate to a great diversity of functions resulting in the well-being of the entire organisms.
- ✓ Which branch of biology's devoted to the microscopic structure of tissues? (1 mark)
  - ✓ What are the striking differences between plant and animal cells? (5 marks)
  - ✓ How are the unique structures of the plant cell important in the life of the plants? (4 marks)
  - ✓ Suggest any unique cells that may have been obtained from plants and animals suggesting in each case the specific role played by such specialised cells. (10 marks).

**Item 6.**

A 12 year old girl from Namasonga SS in S.1 approached you. She was concerned/worried about changes in her body. She had developed breasts, was growing very tall, had pimples, irregular menstrual periods and hips. She is hyperactive, sweats and passes a lot of urine. She also told you that she should have a boyfriend. She as well told that most of her friends had similar changes and felt the same way



**TASK;** Write the speech that you will give to the members of the youth club. (20 scores)

**Item 7.**

The list below shows a group of items. Study it carefully and answer the questions that follow.

**List**

Red blood cell, liver, platelets, lungs, white blood cells, root, flower, platelets, shoot, guard cells, Pancreas, epidermal cells

- ✓ Identify those items which belong to animals. (05 marks)
- ✓ Identify those items which belong to plants. (05 marks)

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Define the following terms as used in the levels of cellular organization. (05 marks)

- ✓ Cell
- ✓ Tissue
- ✓ Organ
- ✓ System
- ✓ Organism

**Item 8**

Life processes are necessary to all organisms in order to survive. Therefore different Organisms exhibit different life processes which sustain their lives.

- ✓ State all the seven life processes exhibited by living organisms in nature (07 marks)
- ✓ State the importance of each of the life process shown in (i) above to organisms (8mks)

**Item 9.**

Both plants and animals are living organisms that make up our communities

- i) State the reason why plant and animals are referred to as multicellular organisms (01 mark)
- ii) Identify any seven similarities between plants and animals. (07 marks)
- iii) State any seven differences between plants and animals. (07 marks)

**Item 10.**

Some students from S.2 biology group X made some research about the organisms in their school garden. They found out that the school garden was a habitat to a number of living organisms.

**RESEARCH FINDINGS.**

They observed some mushrooms growing in areas with a lot of decomposing organic matter, Squirrels entering holes in the garden soil, filamentous spirogyra in pond water flowing through the garden, bacteria on decomposing matter and leafy amarathus plants growing as weeds.

- ✓ Identify the kingdom to which each organism in the above garden organism belongs. (05 marks)
- ✓ Suggest the reason why mushrooms were found growing in areas with a lot decomposing organic matter. (02 marks)
- ✓ State any three characteristics of organisms belonging to the same kingdom where the mushrooms belong. (03 marks)
- ✓ State any five biological roles played by the squirrels and other organisms that live in the soil. (05 marks)

**Item 11.**

Your mother was so concerned about your change in behavior ever since you joined secondary. You no longer want to be showered nor to be observed when showering. The kind of friends you used to have on the village have also changed and these days you are selective to only boys that

look somehow fare. There is a day your mother entered your bedroom at night without alerting you and suspected that you were watching something funny on the phone. You got scared and on reaching you, you were breathing very fast with a high heartbeat.

**Task.**

Explain the issues behind the change in your behavior. (10 scores)

**Item 12**

You went to read your books and found a pigeon on your table and it was all messed up. The table was dry but you got concerned about the white pellets that appeared in its droppings. Trying to connect with what had been taught someday but things didn't figure out in her mind.

**Task**

How would you reach out to her puzzling situation?

**Item 13**

In eastern Uganda, swamps have been cleared for planting Rice and brick mining. The environment officer has organized a radio talk show to sensitize the use of natural resources in swamps. Unfortunately you were too busy you won't listen to what the environment officer was addressing on the radio. However, your friend has asked to brief him or her on what the officer was talking about.

**Task.**

Explain to your friend the environmental challenges being addressed by the officer and how they can be solved. Explain to your friend why we should conserve the natural resources in the community?

**Item 14**

Magogo is one of the deep villages in Kamuli district. People in this village report several malarial cases, stomach ache to the nearby health center. One of the affected families was identified for a survey to help out the situation and the following observations were made about the home's lifestyle. (Food is eaten morning and dirty utensils washed left in the corner to be washed in the evening after garden work., water from washed utensils poured in uncovered ditch behind the kitchen., have several tone mosquito nets some of which are used to rare domestic fowls., One of the girls at home was found arranging the books in preparation for school but most of them had simple bites on the damaged papers., Granny was preparing food using banana leaves with many holes and she was seen picking off larval forms of a certain insect.)

**Tasks.**

- ✓ Use the above survey observations to identify the organisms responsible for the complaints of people in Magogo.
- ✓ Suggest the possible ways this particular family can adjust their lifestyle to minimize the effects of the organisms.
- ✓ Construct an identification key for the organisms challenging this particular family.

**Item 15**

Musomina and the brothers have posho and fatty meat as their daily meal. This has enabled them have the energy through respiration in their body cells. One of the brothers has a missing canine and finds it hard enjoying the meal. He is the smallest of them with stunted growth and hair loss.

**Task**

Write a letter to Musomina addressing some of the issues among which include:

- ✓ How nutrients from the food they eat is obtaining and how it reaches the body cells like those in the feet to cause growth.
- ✓ Why the brother couldn't enjoy the same meal they have.

**Item 16.**

In the Ugandan localities today, there is a smelly fungus considered to be the heart of the soil. However there have always existed misconceptions of what living things were. Chinese at times thought of fire, soil, sunlight among others to be living things. Robert Whittaker an American ecologist saw it wise to put all the living things into five broad kingdoms. However, many people today can't tell which organisms belong to which group and why viruses have been put to their own group. Some groups have got tiny organisms called micro that some people may not even be aware of, though some use them in processing food but can't really tell the exact role these microorganisms play in boosting their economic progress.

**Task**

Design a one page write up that can be uploaded on the internet to respond to the above queries and misconceptions.

**Item 17.**

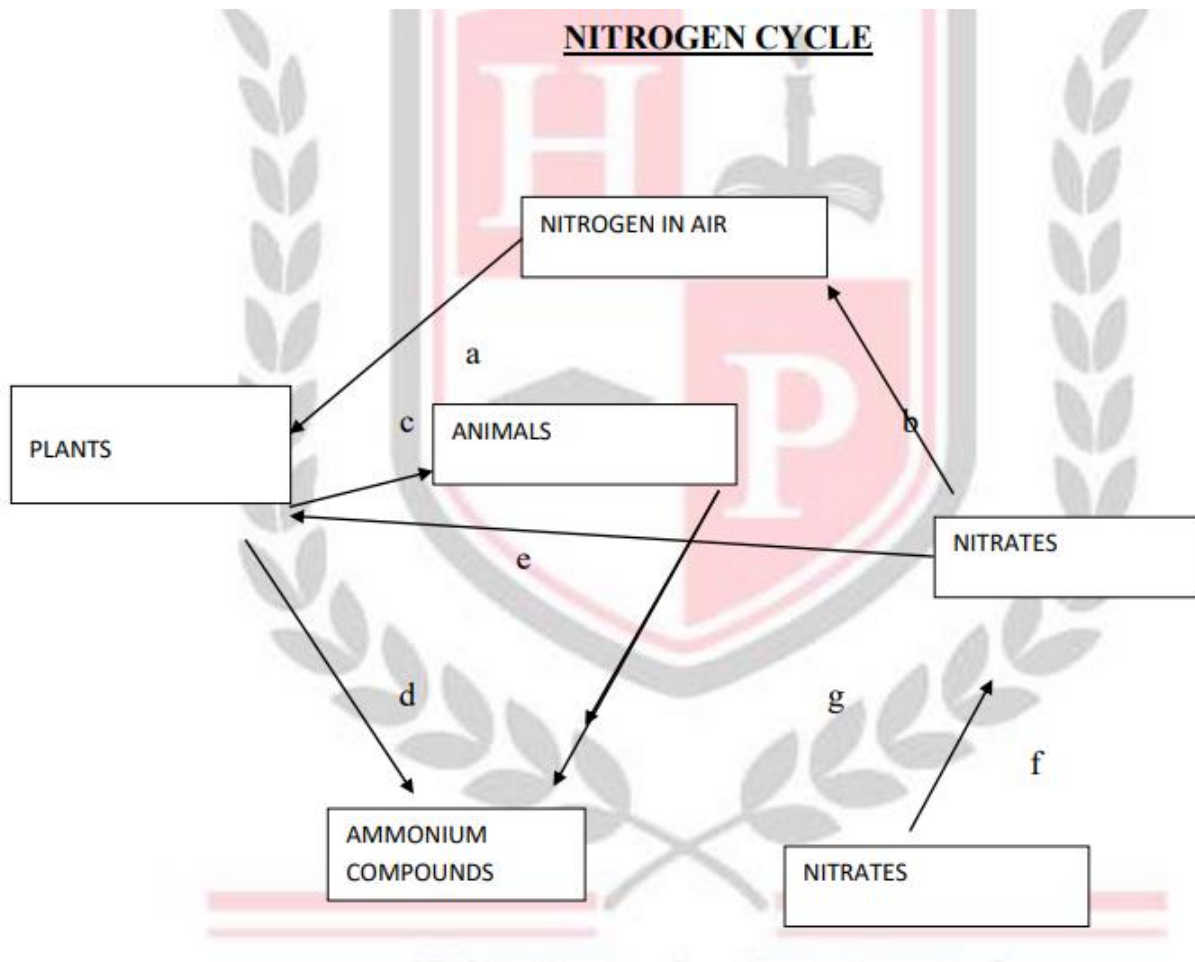
Mr. Magogo Charles is an annual farmer who invests in beans, maize and rice utilizing two of his plots for now 40 years. During dry season he uses his plot in the swamp for rice cultivation but during the wet season he opts for the plot on hilly grounds which he cleared off trees to grow the other crops. He has observed certain slight deep trenches on the hilly plot since last year and a reduction in his yields and increased number of ball -like structure on the roots of the beans he harvests with yellow leaves. He well knows that rice requires much water so he tries growing it even on the hilly plot during rainy season but he has never harvested from them a single grain.

**Task**

Respond to him in writing about the reasons behind his observations and any piece of advice so as to obtain better yields.

**Item 18.**

A senior one learner came to your class carrying a biology chart and he was saying that he could not understand the things written on the chart but he was able to read the word NITROGEN CYCLE as the title. There were different arrows pointing at some words which he totally didn't understand, the chart is shown below.



**Task.**

Help him to find out the named arrow on the chart and explain him more about the different processes on the nitrogen cycle as indicated by the arrows. (10 scores)

**Item 19.**

In Bududa district, the area receives heavy rainfall and it is found on a steep slope. Members of the village always complain about the poor weather condition that keeps on destroying their crops and also faces challenges in taking back their children at school due to the poor condition of the roads. During the village meeting, one of the members raised his hand and talked about soil erosion as the major concern of all this, all members were wondering because of the word said by their fellow members which they didn't understand. You have been called upon by the elders of the village to explain more about the said word since you are one of their educated children in the village.

**Task.**

Explain the members the meaning of soil erosion and brief them more about the different types of soil erosion and their causes. (10 scores).

**Item 20.**

Precious a senior two learner carried out an investigation to determine the percentage of air in a given soil sample and obtained the following values;

Volume of soil used = 40cm<sup>3</sup>

Volume of water added to soil = 50cm<sup>3</sup>

Final volume of water + soil after mixing = 80cm<sup>3</sup>

- ✓ Determine the volume of air in the soil sample.
- ✓ Calculate the percentage of air in the soil sample.

In another investigation, 80g of a fresh soil sample was heated in a crucible. After repeated heating and cooling, the constant mass of the soil was found to be 65g. Calculate the percentage of water in the soil sample and explain the factors that affect the water content of a given soil.

**Item 21.**

Zika forest is a forest found in kitale village, Wakiso district. The village is found in the cattle corridor. The community members often times face conflicts with some species of insects whereby these insects bite them thus inflicting pain to them and even spreading some diseases. As if that is not enough the insects also bite their plants and animals thus running their health causing unrest and reduced productivity of the farms. The community members are carrying out a massive campaign to completely get rid of a creature called insect.

**Tasks.**

- ✓ As the district agricultural officer of Kayunga, write a speech you would present to the community members about their concern. (10 scores).
- ✓ The table shows the characteristics of some insects.

	Antenna	Mouth parts	Wings	Legs
A	Long	Mandibles	None	Short
B	Long	Proboscis	Has 2	Short
C	Short	Proboscis	None	Long
D	Short	Proboscis	Has 4	Long
E	Short	Proboscis	Has 4	Short

- ✓ Construct a simple dichotomous key that can be used to identify the insects. (08 scores)

**Item 22.**

Mrs. Kanyere is a good farmer who uses the knowledge she obtained from studying transport in plants to grow tomatoes for her home consumption as sauce and at times making juice. In the process of growing tomatoes, she prepares a nursery bed for growing the tomatoes to a certain stage but later transplants them in the late evening hours to the main garden.

**Task.**

- ✓ Why do you think Mrs. Kanyere transplants her seedlings in the late evening?
- ✓ After transplanting the seedlings, Mrs. Kanyere keeps on watering the main garden until a certain stage. Explain why she waters the garden.

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- ✓ Which process do you think plants use to take up the water Mrs. Kanyere provides to them?
- ✓ Name the cells that enable these tomatoes to absorb water.
- ✓ Which cells do these tomatoes use to transport water and mineral salts from roots to leaves such that they can use the water?
- ✓ How is the process stated above useful in animals?

### **Item 23**

Mr. Dolobondo bought land which was being used by the person from whom he bought the land. Mr. Dolobondo decided to plant maize crops for his family but he observed the following features on leaves in his plantation after planting such as stunted growth, yellowing of leaves, Poor root and fruit development and premature death of plant parts.

#### **Task.**

Which mineral elements do you think were deficient in the soil?

Which advises can you give to Mr. Dolobondo about deficient elements?

### **Item 24.**

During breathing, the following processes occur in the body so as air can enter man. The volume of the chest increases. Air reach in oxygen enters through the nose and travels to the lungs. Intercostal muscles of the rib cage contract. Pressure of the chest decreases below atmospheric pressure. The rib cage moves upwards and outwards. The above process is not in its order.

#### **Task.**

As a biology learner;

- a) Organize the above process in its normal flow for breathing to occur.
- b) Explain why breathing is very important to animals.

### **Item 25.**

A community in Uganda is cutting down trees in a nearby forest to create new space for farming because food yields from the land they are currently using has declined. A government authority has stopped them from clearing the forest. The community members see no reason why they should be stopped.

#### **Task.**

- ✓ What general term or phrase would be used to refer to what the community is doing to the forest?
- ✓ Write an essay to the community which will make them to appreciate the government's action and how they can stay on their current land.

### **Item 26.**

Jordan a 12 year old boy who is very active in games and sports and so like doing physical exercises every morning. His mother back home is six months pregnant and takes care of her 90



year old grandfather, Jordan's father is working at supermarket in Kampala as an attendant. The family has been having issues over which food to prepare that will suit the needs of each family member. You have been contracted as a nutritionist to save the situation in the family.

**Task.**

Design a food menu for each individual in the family and this should include the rationale and reasons why.

**Item 27**

A farmer in Nankandulo village planted his maize in a well cleaned and properly prepared garden at the start of the rainy season. He used good seed varieties that had been supplied under operation wealth creation project. to his surprise after two months, the maize plants were short, stunted and had put on very small maize cobs. The leaves had yellow and green patches and were equally small. He had a very low harvest and had losses that season. However, being a passionate maize grower, the farmer has not yet given up on growing maize in the same place.

**Task**

Explain to the farmer what could have caused the losses.

What advice would you give him in order to improve on his yield next season?

**Item 28**

Isaac a learner of your school is going for holidays after term three has ended since the holiday seems to be long; he plans to do some vegetable growing as he did in the previous holiday. However, he scared the season might not be right due to the high temperatures.

**Task.**

- ✓ Identify the scientific process that Isaac's plants are likely to face and describe how it occurs.
- ✓ How can he reduce the effect of the process to his plants (attach reasons)

**Item 29.**

Violet a farmer in Buikwe planted maize plants on fertile well-watered soils. Upon reaching the flowering stage, they were attacked by army worms that destroyed some parts of the plants. Her maize plants yielded poorly and made losses.



Fig above shows Violet's maize garden invaded by army worms.

**Task:**

Explain how the army worms caused the poor yields.

How can Ms. Violet overcome the challenge in the next seasons?

**Item 30.**

Rachael and John, a couple in Kyengera town has in most of the cases suffered from unplanned births that have made them go into unplanned expenses. The couple plans to have another pregnancy and has decided to visit Nsangi Referral Hospital. Dr. Sennyonga, a medical doctor at Nsangi Referral Hospital informs the couple that their challenge has always come in due to their failure to understand and interpret the dynamics of the Oestral cycle. He informs them that it is incorporated by the changes in the hormonal levels in blood. Dr. Sennyonga receives an emergency call that invites him to attend to an important ceremony on which he is the Guest of Honor. This leaves the couple in suspense.

**Task**

As a Biology learner; help Racheal and John understand the events that occur during the Oestral cycle. (05 scores)

Explain to the couple the hormones involved in the Oestral cycle and their effects. (05 scores)

**Item 31**

A couple without any genetic disease recently gave birth to a baby with sickle cell trait. Their neighbor has battled with this disease ever since he was born. The man accuses the woman to have committed adultery with the neighbor and so the baby isn't his. However, it should be noticed that, the grand parents of the two (couple) had sickle cell trait.

**Task.**

- ✓ Help the couple to understand that basing on their genetic history, it is possible to have a baby with sickle cell anaemia. (Include the genetic crosses)

- ✓ Suggest how the family can manage their baby's condition.

**Managing sickle cell anemia involves a multidisciplinary approach as shown below;**

- ✓ Medical Care: Regular check-ups with a hematologist to monitor the child's health, manage symptoms, and prevent complications.
- ✓ Medications: Often includes pain management medications for crises, antibiotics to prevent infections, and hydroxyurea to reduce frequency of pain crises.
- ✓ Vaccinations: Ensure vaccinations are up-to-date to prevent infections.
- ✓ Lifestyle: Encourage a healthy lifestyle with adequate hydration, proper nutrition, and avoiding extreme temperatures.
- ✓ Education and Support: Educate the family about the condition and provide access to support groups for both the child and the parents.

**Item 32.**

An old man lives in a bush home near a swamp. He doesn't have a latrine hence disposes the wastes in the swamp yet he obtains water from it for domestic use. He frequently gets severe diarrhea, headache, joint pain and fever. However, he says that the neighbors may be bewitching him.

**Task.**

Explain to this old man the cause of the problem so that he lives in harmony with the neighbors and advise him on how he can overcome the challenges without degrading the environment.

**Item 33.**

Landslides in Bududa district have left most of the people homeless. Because of this, people are migrating from these areas and have decided to clear forests and swamps in the nearby areas to get land for settlement. This has resulted into a number of challenges in the community.

**Task**

Explain to these people what could be the cause of the challenges and advise them on how to minimize effects of the challenges. Also show them the value of conserving the environment.

**Item 34.**

Watkins feeds on foods rich in fats. Recently, he went with a friend for mountain climbing as a way of spending leisure. As he was climbing the mountain, Watkins started breathing heavily, heartbeat increased and eventually collapsed. He was rushed to a nearby health centre and according to the Doctor's report, his blood pressure was found to be 170/110mmHg. He also felt muscle cramps.

Note: Normal blood pressure is 120/80mmHg.

**Task:**

Help Watkins understand how his lifestyle has affected normal body functioning and advise him on how he can overcome the challenges.

### Item 35.

During the interclass competitions, two students Rashford and Bukayo were selected for the event. Bukayo spent a month before, training regularly and feeding on sweet potatoes and milk as well as drinking a lot of water. Rashford used not to train and used to eat a lot of junk foods from the school canteen, he however concentrated on morning drills everyday before the competition. During the event, Rashford could not complete the race for he became very weak, developed muscle cramps and abnormal heartbeat while Bukayo won the race.

Task:

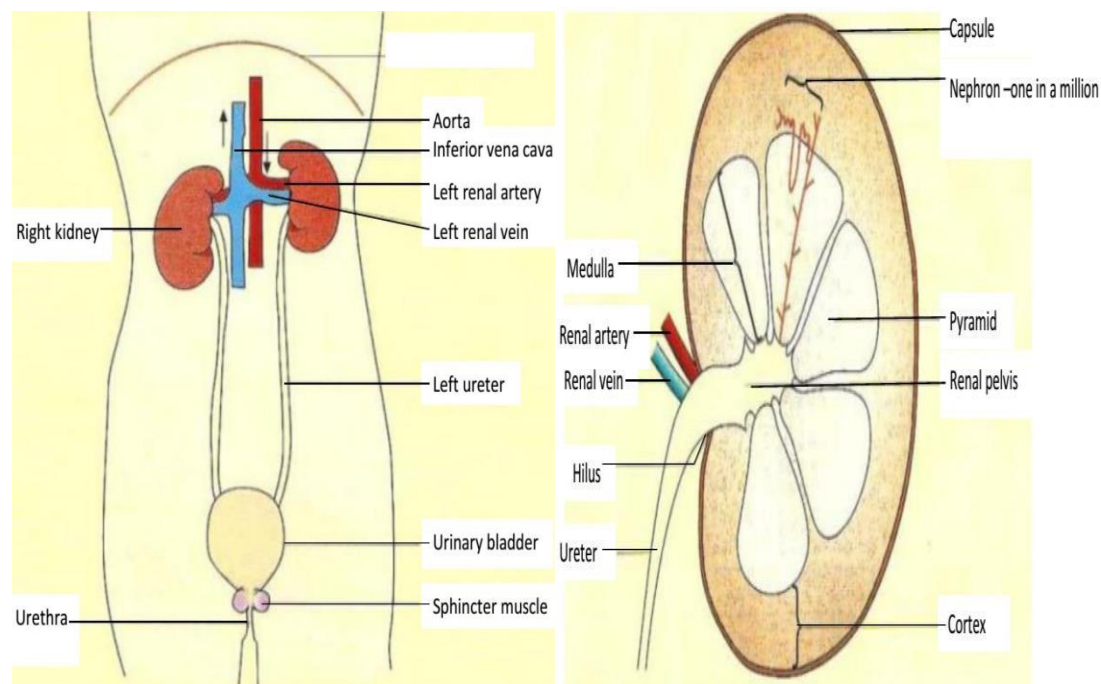
Explain how Bukayo's earlier preparations contributed to his success.

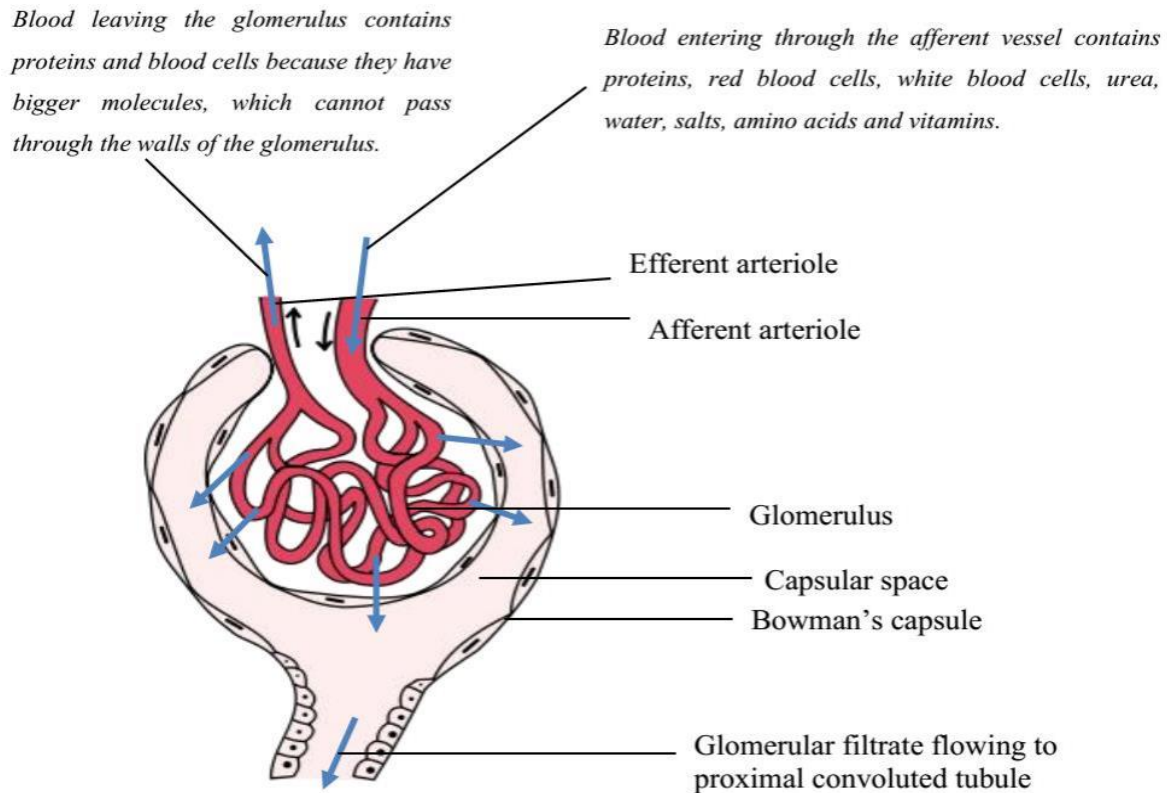
Basing on the earlier events, explain why Rashford did not complete the race and advise him accordingly.

### Item 36.

Sekyito a senior 3 student at Immaculate Heart Girls School-Nyakibale went to ease herself, she observed that the urine was too concentrated to the extent of changing colour

SUPPORT





### Task.

- ✓ Where are the above kidneys located in the body.
- ✓ Why do you think Sekyito's urine was concentrated
- ✓ As a biology student at Immaculate Heart Girl's school, how was that liquid (urine) formed by the kidneys (Nephron)
- ✓ How does the length of the nephron affect the process of urine formation?

### Item 37.

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 when it is oxidized/broken down later during oxygen debt.

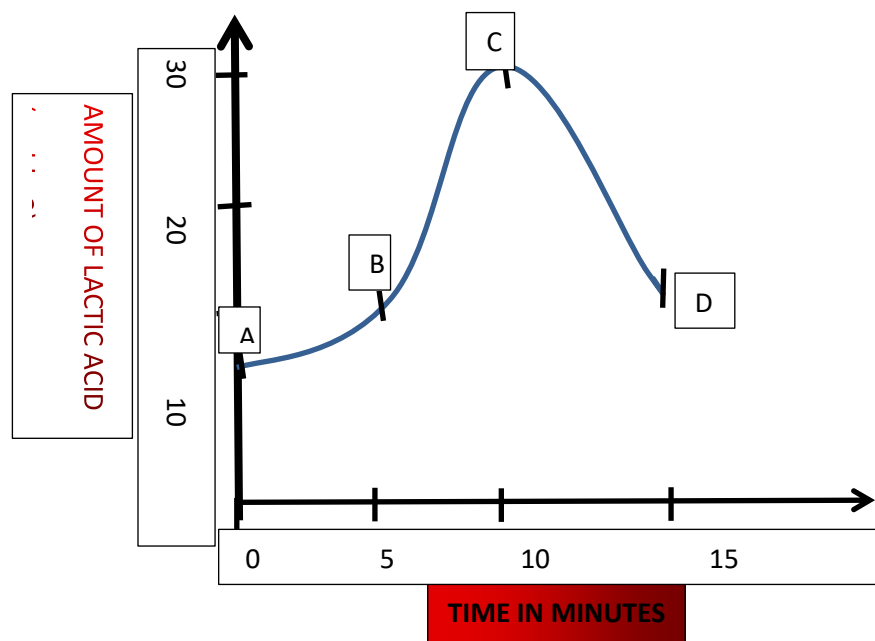
A group of ATHLETES were performing an exercise, they started by warming up and later vigorous running/sprinting then after rested ,

### Support material.





The graph below shows the amount of lactic acid produced during the time of the exercise



What do points on the graph represent

- ✓ A-B.....
- ✓ B-C.....
- ✓ C-D.....

Which points on the graph represent

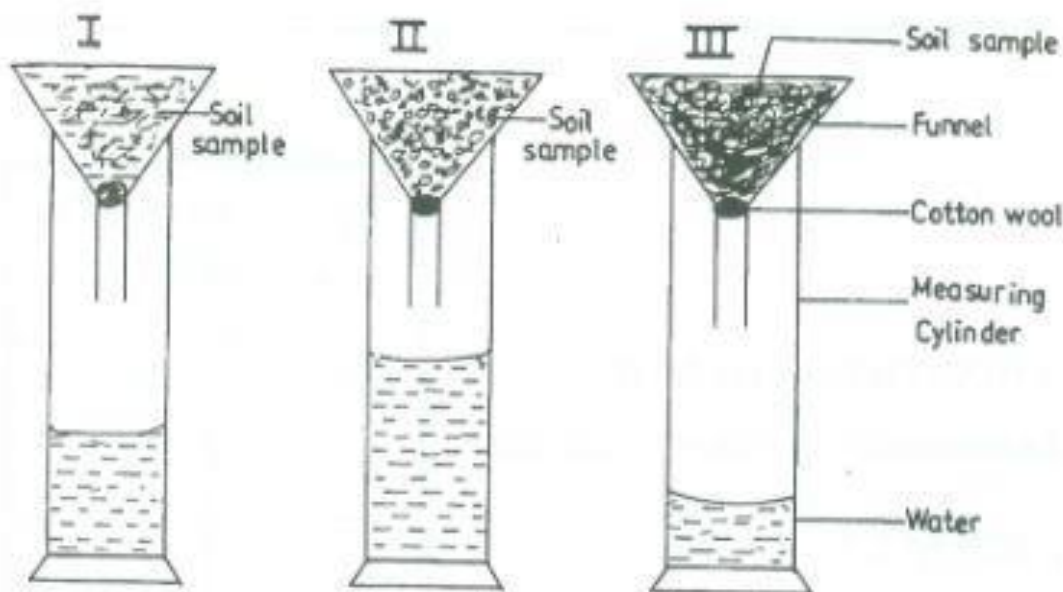
- ✓ start of exercise
- ✓ muscle fatigue /end/stop of exercise
- ✓ recovery period
- ✓ oxygen debt

why is the amount of lactic acid;

- ✓ Increasing slowly between A-B
- ✓ Increasing rapidly between B-C
- ✓ Decreasing rapidly/faster between C-D

### Item 38.

In an experiment to determine the properties of different types of soil samples; the sets of apparatus were arranged. 250 cm<sup>3</sup> of water was poured into each funnel containing a soil sample; the following observations were made at the end of the experiment and the amount of water that collects in the each measuring cylinder is noted. Study them and answer the questions that follow.



- (a) State the aim of the experiment. ( 01 scores)
- (b) With reasons; state the type of the soil sample used in,
- ✓ Experiment 1 ( 03 scores)
  - ✓ Experiment 2. ( 03 scores)

✓ Experiment 3. ( 03 scores)

(c) Identify the methods that can be used to improve on soil sample II...

**Item 40.**

In Jinja town council, many mothers have failed to understand how sex linkage occurs in humans. On one of the talk shows on BaBa FM, Dr.Nabeeta, a gynecologist from Jinja Main Hospital tried to explain how the phenomenon occurs. On a sad note, Mutesi, a resident in the same town only heard the conclusive statement “sex chromosomes also carry genes and these control characters that can be inherited along with sex. These are known as sex linked characters.”

**Task.**

Explain to Mutesi how this phenomenon occurs in humans. (20 scores).

**Item 41.**

Amulen and Lukwago, both visited Nakasero blood bank to know their blood types. On reaching there, Dr.Achen showed them a chart that beared both the blood types and antibodies shown below.

Blood Type	Antigens on rbcs	Antibodies in blood	Safe transfusions	
			To	From
A	A	B'	A , AB	A , O
B	B	A'	B , AB	B , O
AB	A , B	-	AB	A , B , AB , O
O	-	A' , B'	A , B , AB , O	O

(Extracted from [www.mun.ca](http://www.mun.ca))

She further explained to them that when two individuals with non-complementary blood groups share blood, it has about 85% chances of agglutinating. She added that this challenge can be overcome by drafting a cross match table before any transfusion of blood can take place which she never drafted for them.

**Task.**

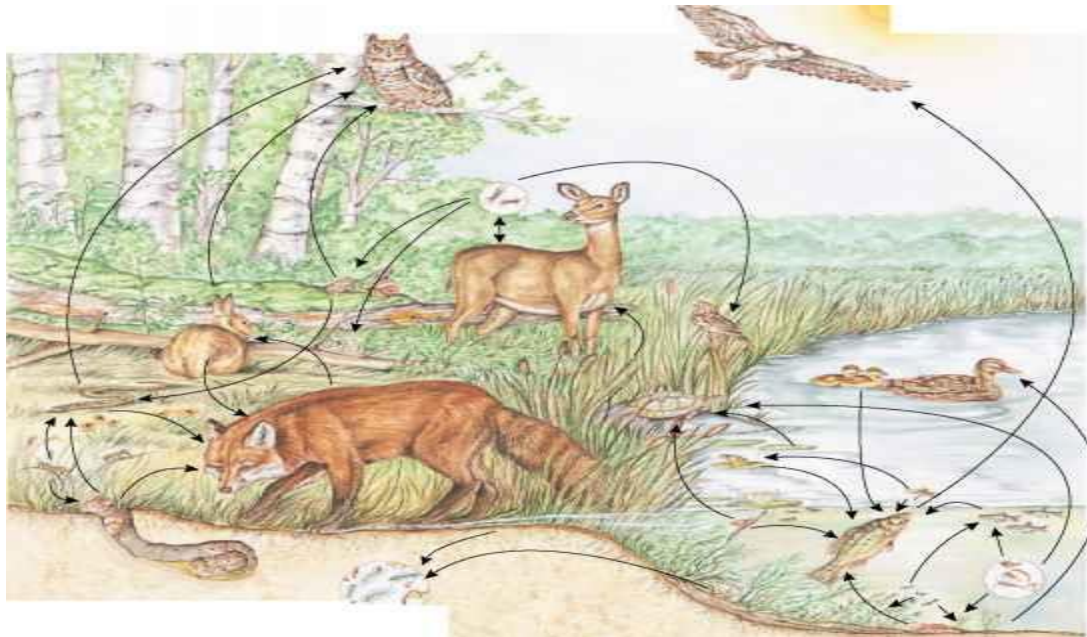
Construct a well referenced cross match table that would be considered in any hospital to enlighten Amulen and Lukwago about the matter. (20 scores).

**Item 42.**

There are more reports coming in on the destruction of environmental conditions which has called for more ecologists to understand how organisms interact with each other and the abiotic



environment. As such we now have a much better understanding of how community diversity and composition influence ecosystem processes, the resistance and resilience of ecosystems to environmental perturbations and feedbacks between the producer and the decomposer components of the ecosystems.



**Task:** Write an essay explaining how ecological interaction networks affect ecosystem functioning and stability.

#### Item 43.

In 2019, the whole world was hit by a pandemic disease known as SARS-CoV2 commonly referred to as COVID-19 viral disease which resulted into very many changes. Very many people lost their jobs whereas others got opportunities and as a result, there was a transition, where some have moved to better standards of living while others moved to poor standards of living as the outcome of the disease. Research has been done and it has been found that the people who changed with the current trends are the ones that moved to better standards of living whereas the ones that did not change were affected in the reverse direction.

**Task:** Using your knowledge of evolution, write an article to publish on different media platforms to help people appreciate change if they are to survive in the changing environment. In your article, include different theories that support the change they should appreciate.

#### Item 44.

In 2020, there came in large swarms of locusts that invaded northern Uganda

That ate much of the vegetation including crops like maize, sorghum and other cereals which creates fear for famine in the coming years. As a means of controlling locusts, the locals decided to burn vegetation.



**Task:** imagine you are from the department of veterinaries at Makerere University; prepare a presentation on the worst and best approach in dealing with the locust disaster.

#### **Item 45.**

The members of parliament education committee conducted a survey on associations in biological communities in lake Mburo national park. The aim was to create an educational camping centre for learners which are safe for them while conducting field work tours. The findings include the following;

- ✓ A number of grazers were seen
- ✓ Leopards were seen at a distance chasing Uganda knobs
- ✓ Ox picker birds were seen with the grazing buffaloes
- ✓ They also noticed that the environment was highly infested by tsetse flies.
- ✓ They found out also that around Lake Mburo, there were many mosquitoes. This worried the committee whether the camping centre would be safe for the learners.

**Task:** As an ecologist, prepare a written presentation to the parliamentary education committee explaining the biological associations found in the area and convince them that the camping centre would be safe for the learners.

#### **Item 46.**

A man started fighting with his wife, left home and stopped caring for his son because he suspected the son is for another man. This is because the son is an albino yet the mother and the



father are normal. One of their friends advised these people to go for DNA testing to remove the conflicts between the couple however it is costly.



**Task:** As someone who has finished a chapter about inheritance, using the knowledge of genetics, help this couple to settle their conflict over their son without going for DNA testing.

#### Item 47.

Due to urbanization and industrialization, there has been a lot of clearing forests and other natural vegetation and very many places turned into industrial areas. These industries constructed have attracted a good number of people to come to live and work from their which has greatly affected the quality of drinking water in these places.



**Task:** As a biology student, write a letter advising the communities in these areas affected on how the quality of water can be preserved.

#### Item 48.

In most of the organisms for example in plants, the siblings always resemble their parents but in animals, there is always a difference among the offsprings of the parents; some resemble them while do not.

**Task:** As a student of biology, explain how these changes come in members of the same species.

**END.**