UGANDA CERTIFICATE OF EDUCATION

BIOLOGY DEPARTMENT KSCK

COMPILED MOCK ITEMS 2026

ITEM 1 TYPE

Item 1 UTES 2026

John intercropped maize with beans in his garden. The garden was destroyed by a hailstorm at flowering stage, damaging various structures of the maize shoot system leading to losses. However, the bean plants that were growing under the shade of the maize were not destroyed but developed tendrils at the nodes, had long stems, broad leaves and many flowers. The bean plants gave high yields.

Task

(a) Explain how the hailstorm affected the maize plants causing losses.

(b) Why were the bean plants able to give high yields?

Item 1 WAKISSHA MOCK 2026

A study was conducted in a semi-arid savannah ecosystem to investigate how plants survive under extreme environmental stress. They observed that some parts of the study area experienced very high temperatures, intense sunlight, low soil moisture, high rates of evaporation, and sandy soils with low nutrient content, particularly nitrogen.

In this environment, several plant species such as acacias (leguminous plant) were thriving. Some plants had small needle-like leaves, while others had thick fleshy stems. A number of plants showed deep tap-root systems, while others had widely spread shallow roots close to the soil surface. The legumes had reduced leaf surface area and waxy cuticles, they maintained relatively healthy growth despite the harsh conditions.

The scientists also observed that many plants had stomata that remained closed during day but opened at night, and some leaves showed a folded structure during peak heat hours.

The ecologists were interested in how the plant species managed to adapt and compete successfully in such a challenging environment.

Task

(a) Identify the plant structures whose functioning was being affected by the environmental conditions in this semi-arid ecosystem.

(b) Explain how the environmental conditions in the scenario affected the processes of the plants.

(c) Explain how the acacia plants were able to survive and compete successfully with other plants under these conditions.

ITEM 1 JJEB 2026

A traditional herbalist collects herbal medicine from medicinal plants in a nearby forest. In the process of harvesting, he frequently plucks leaves and flowers, digs out roots, and strips bark from tree stems. Over time, the population of many medicinal plant species in the forest has greatly reduced. However, one particular species, which has numerous buds and a high capacity for regeneration, has continued to survive and remain abundant.

Task

a) Explain how the herbalist's harvesting methods affect the normal functioning of medicinal plants.

b) Explain why one particular species has continued to survive despite the poor harvesting methods.

Item 1 ASSHU MOCK 2026

A farmer had a mango tree in his farm on which he would always tether his cow at the tree stem. After some time, the tree bark at the point of tethering rot away, and there was a swelling on the upper part of the rotten tree bark. During the long dry season, the mango tree almost dried. During the rainy season however, a new tissue developed around the point of tethering at the stem, mango leaves became greener and the tree produced more lateral buds.

Task:

(a) Explain how the contents in the swollen part of the tree stem were formed within the mango tree.

(b) How did the mango tree survive the conditions it experienced during the rainy season?

ITEM 1 KASSPHA 2026

Students in the environment club carried out a tour around their school compound and noticed that some trees were damaged. They decided to monitor the trees over time in order to find ways of saving them.

They collected the following information:

Tree	**Type of damage Effect of damage**	**Effect of the damage**
Jackfruit	The bark was removed making a ring around the stem	• Leaves dropping and drying. • Swelling of the upper edge of the cut surface. • Tree dying
Mango	• Caterpillars feeding on leaves • Part of the bark was removed	Swelling around the cut area. • Stunted growth
Orange	Attacked by a fungus that blocks the xylem	Severe wilting with drooped

		leaves.

To save the trees, all of them were watered and supplied with fertilizers. In addition:

- The mango tree was sprayed with an insecticide to kill the caterpillars.

- The orange tree was sprayed with a fungicide to kill the fungi.

After two months, the effects of the mango and orange trees were reversed and they produced some fruits, but the jackfruit tree died.

Tasks.

a) Explain how the type of damage in each tree led to the observed effects.

b) Explain why the mango and orange trees were able to survive and produce fruits.

Item 1 UTEC 2026

During the rainy season in a certain village in Namisindwa, prolonged heavy rains caused flooding in a lowland garden. Most plants showed signs of wilting, yellowing leaves, and root rot, and many eventually died. The excess water in the soil displaced air, creating waterlogged conditions. In contrast, the Cyperus papyrus plants survived and continued to grow vigorously. On examination, it was found that this plant had a spongy tissue in its roots, its leaves had reduced surface area and had large rhizomes.

Task:

a) Explain how excess water in the soil affected different plant processes leading to the death of most plants.

b) Explain how the papyrus was able to survive in waterlogged soils?

ITEM 1 KAMSSA 2026

Musoke is a renowned maize farmer in Nakaseke district. His farm covers a large acreage and has been giving him good yields in every harvesting season for a long period of time. While upgrading the tarmac road alongside his farmland, a lot of dust was produced by the heavy machinery used during the process, which was blown by wind into his maize plants that were also at flowering stage. Most of the green maize plants turned brown with time. This greatly affected their productivity and poor yields were got during the harvesting season. Therefore, Musoke encountered a number of losses that season.

Learner's task

(a) Mention the major plant organs and processes that were greatly affected by the prevailing conditions.

(b) Explain how the prevailing conditions affected the normal functioning of processes in the maize plants.

(c) Explain how the maize plants in Musoke's farm were able to give out some yields despite the challenges encountered.

ITEM 1 ACEITEKA 2026

Commercial legume farmers were greatly affected by prolonged drought conditions, which made their crops become stunted, have weak stems and their leaves turn pale green. The farmers were advised to irrigate the crops, and when this was done, the crops appeared erect with greener leaves.

Task

(a) Explain how

(i) the observations made about the legume crops came about during such conditions

(ii) the conditions affected functioning of the crops (b) Describe how the crops utilized the farmers advise to overcome effects of the conditions

Item 1 LUDISSEB 2026

Kabanda planted beans in his piece of land located in a valley. The plants had green leaves and had many flowers. Due to stagnant water in the garden, the leaves of the bean plants turned yellow, many flowers withered and the roots became rotten leading to death of most of the bean plants. However, the cocoyam plants in the same piece of land with numerous adventitious roots, broad leaves with thin cuticle, and large air spaces in their stems survived.

Task

(a) Explain

(i) How the observations made about the bean plants came about as a result of the stagnant water.

(ii) How the stagnant water affected the normal functioning of Peter's bean plants.

(b) How did the cocoyams manage to survive the conditions in the garden?

Item 1 UMTA 2026

A farmer intercropped beans with yams in a wetland without proper drainage channels. The crops grew well at first, however, later the beans developed yellow leaves, weak stems and many had rotten roots leading to no yields. The yams on the other hand, whose leaves had thin cuticles, spongy stems and numerous adventitious roots continued growing normally. The beans barely gave any yields, unlike the yams.

Task:

(a) Explain how the conditions in the wetland affected the processes in the bean plants leading to no yields?

(b) How did the yams in the same wetland garden manage to continue growing normally?

(ii) how structures in the legs worked together to bring about the observed actions during the therapy.

(b) Apart from regular exercise and diet, explain medical interventions to manage Mr. Muluga's health conditions.

ITEM 2 TYPE

ITEM 2 JJEB 2026

An old woman has been suffering from joint pain and frequent fractures. Her son developed visual and hearing impairment. When the son was diagnosed in hospital, the clinical laboratory report indicated that the auditory canals had a lot of wax and the ear drums and cochlea were damaged. The iris had less pigment and the ciliary muscles were weak. While in the hospital, the old woman was informed that her sickness was due to hormonal imbalance as a result of her old age. The woman is so worried about her health condition.

Task

a) Explain the cause of the son's impairments as indicated in the report.

b) Explain what can be done by the old woman to manage her health condition.

ITEM 2 ASSHU MOCK 2026

Francis is a teenager who dropped out of school due to his involvement in a group of boys in town who drink alcohol and smoke marijuana. He spends most of the time with the group and they are known for crime in town. One day there was a demonstration in town and the police fired tear gas at the people. When Francis heard the loud sound of the tear gas canister, his heart pounded, eyes protruded and he urinated on himself. He tried running but his legs were too weak to support him.

Task

(a) Explain

(i) the effects of Francis' lifestyle

(ii) how his body coordinated to bring about his reaction after the tear gas canister.

(b) Advise Francis on how to overcome the negative effects of his lifestyle

ITEM 2 KASSPHA MOCK 2026

Kevin, a 35-year-old long-distance truck driver, was hospitalized with multiple fractures after a road accident caused by a sudden episode of blurred vision. In the hospital, laboratory tests revealed glucose in his urine. Kevin admitted to frequently using a stimulant drug to stay awake during long journeys. Subsequent evaluation revealed that the drug suppresses insulin production, damages the optic nerve, and inhibits deposition of calcium in bones.

a)I) Describe how the stimulant drug caused Kevin's accident.

ii) Explain Kevin's multiple fractures and his lab results.

b) Advise Kevin on how to manage his life to ensure better health.

Item 2 UTEC 2026

Mugerwa, an S.4 student in Wakiso District, has been experiencing fatigue, extreme thirst, and blurred vision. At the hospital, urine dialysis test showed glucose present. The doctor diagnosed him with a condition affecting blood sugar control and advised him to manage his diet to live a healthy life.

One day while at school in a P.E practical lesson, Mugerwa repeatedly raised and lowered his arm to throw a javelin as part of an exercise, but during the drill he saw a big snake in the bush. He became frightened, his heart beat rate increased, his pupils dilated, he sweated excessively, and he ran away.

Task:

a) (i) Explain how Mugerwa's conditions resulted in the health challenges he experienced before seeing the snake.

(ii) Show how Mugerwa's body coordinated to bring about the fear responses when he saw the snake, and also to control the movement when raising and lowering his arm.

b) suggest practical ways Mugerwa can implement doctor’s dietary advice to manage his condition

ITEM 2 KAMSSA 2026

Mary’s grandmother always complains about lower back pain, shortness of breath and due to old age, her posture changed and now days she walks with the aid of a walking stick. One of these days while preparing lunch in the kitchen, she accidentally lifted a hot saucepan from the charcoal stove and encountered a lot of pain. The saucepan later slipped away from her hands as she tried lifting it and all the soup poured on the kitchen floor and lower limbs. She encountered a number of burns on her lower limbs which are currently being nursed at the nearby health facility.

Learner’s task

(a) Explain the series of events that took place in the grandmother’s body from the moment she touched the hot saucepan till when she released it.

(b) Explain the likely causes of the grandmother’s healthy conditions.

(c) Advise Mary’s grandmother on how she can manage and improve her health conditions.

ITEM 2 LUDISSEB MOCK 2026

As James was running away from police, he accidentally stepped on a sharp thorn and suddenly folded the leg at knee joint, and due to pain, lowered it as he limped. James has a short stature with a swelling in the neck region and these affect his life. When he went to hospital, he was informed that his health challenges were due to insufficient hormone secretion.

Task

(a) Explain how

(i) James' body coordinated to bring about limping suddenly after stepping on the thorn.

(ii) Structures in the leg worked together leading to limping

(c) Explain the causes and management of the health challenges affecting James's life.

Item 2 UMTA 2026

Mr. Muluga, a 60-year-old man became ill and was hospitalized. Medical examinations revealed two health conditions: high blood sugar levels and osteoporosis, both attributed to old age. While in the hospital, doctors put him on a therapy (regular light exercises) involving repeated folding and straightening of his legs aimed at reducing effects of the conditions.

Task

(a) Explain,

(i) the causes of the health conditions revealed in Mr. Muluga, apart from old age.

II) how structures in the legs worked together to bring the observed actions during therapy

b) apart from regular exercise and diet, explain medical interventions to manage his health conditions

ITEM 2 ACEITEKA 2026

An old woman previously diagnosed with diabetes suffers with blurry vision. While looking at her flowers at home, her eye was approached by a speeding insect, making her immediately close it and turn away. Because of her health condition, her feet periodically swell and she has poor wound healing.

Task

(a) Explain

(i) how the old woman's reaction towards a speeding insect came about

(ii) how the health condition resulted into the challenges she is experiencing

(b) Advise the old woman on how she can manage her health condition.**Item 2 UTES MOCK 2026**

Mr. Ssemanda, a health worker was disturbed when he realized that his family members had many symptoms for various health challenges. His brother could feel hungry and urinate often. The mother who is 60 years old was complaining of persistent joint pains. The mother who is 60 years old was complaining of persistent joint pains. Mr. Ssemanda embarked on finding medical solutions to the health challenges amongst his family members.

Tasks

a) Explain the

i) Possible causes of the health challenges in MR. Ssemanda's brother and mother

ii) Effects of the health challenges present in his brother

b) How can Mr. Ssemanda and the family manage the health challenges present in the brother

Item 2 WAKISSHA 2026

In Lufunda Parish, a rural farming community, the local health center has reported a rising number of chronic health conditions affecting both adults and youth. During a medical outreach program, health workers observed the following: -

- many adults especially those above 45 years, are suffering from weak bones, frequent fractures, and persistent back pain (osteoporosis).

- many women and children have visible swelling at the front of the neck (Goiter).

- several middle- aged individuals were diagnosed with diabetes mellitus.

- many youths frequently consume alcohol, tobacco and other substances.

- some patients also showed reduced sensitivity to environmental stimuli such as light and sound due to prolonged substance abuse.

The medical team confirmed that the conditions were linked to hormonal imbalance, enzyme inefficiency, poor diet and substance abuse affecting their body systems. Clinical tests confirmed diabetes, goiter and osteoporosis.

Task

(a) Explain how hormonal imbalance contributes to the development of diabetes, goiter and osteoporosis in the individuals of Lufunda Parish.

(b) Explain how reduced enzyme activity affected nutrient absorption and overall health of the Lufunda people.

(c) Discuss the role of diet and lifestyle in the prevention and management of the disorders identified in the community.

ITEM 3 TYPE

ITEM 3 **ACEITEKA 2026**

A couple had no child for many years. They decided to go to hospital and the clinical laboratory results indicated that the wife had blocked fallopian tubes, cysts around her ovaries and a damaged inner uterine lining. When the wife received treatment, the couple produced an albino child. However, the husband denied being responsible for the child since the couple lives with an albino man in their neighborhood. The child has many challenges and this has stressed the mother.

Task

(a) (i) Explain how the observations in the clinical laboratory report led to the wife's failure to have children.

(ii) Using a genetic diagram, explain to the husband the possibility of being the biological father to the child.

(b) how can the challenges associated with the child's condition be managed

Item 3 UTES MOCK 2026

Mary and Joseph have been married for 20 years and have four girls and one boy. When they produced the fifth girl, Joseph decided to abandon the family and started having unprotected sex with other women in quest for more boys and so he became HIV positive. Their eldest boy had colour blindness, which is affecting his performance at school. Joseph finally produced a baby boy outside his marriage, however, the child had Down's syndrome.

Task

(a) (i) Genetically show how their eldest son inherited the condition that is affecting his performance at school.

(b) Explain how Joseph can manage his health status.

(ii) The condition in the boy child born outside marriage can be managed.

(i) Explain how the condition present in the boy born outside Joseph's marriage came about.

ITEM 3 JJEB MOCK 2026

A 15-year-old Senior Three homozygous normal girl became pregnant after engaging in a sexual relationship with a heterozygous normal man from a family with some albino members. The pregnancy has negatively affected her. She is also worried that the unborn baby may be albino because albinism exists in the man's family. Due to this and the challenges associated with the pregnancy, she is considering abortion. However, her friend has advised her against making that decision.

Task

a) Genetically show to the girl the possible phenotypes of the unborn child.

b) Explain the likely challenges that the girl could be experiencing due to her current condition.

c) Explain the importance of the friend's advice to the girl.

ITEM 3 KASSHPA MOCK 2026

David got married to Joan and they produced a son. Their son, when injured, bleeds a lot even with a slight cut and this causes a lot of distress in the family. When Joan got pregnant for the second time, David advised her to abort on the belief that they would get a child with similar condition as that of their first-born son. However, when David and Joan went to the hospital concerning their son's condition, they were told that the condition was a result of Joan being a carrier of a bleeder's disease.

a) Explain why Joan should not take David's advice.

b. Show how their son inherited the condition.

Item 3 UTEC MOCK 2026

Reproductive Health Uganda (RHU) is a community-based organization in Kampala District. It supports young people to make informed health choices.

RHU works through school health clubs and community outreaches with three main focus areas:

Mandate 1: Educate adolescents about reproductive health, with special attention to the menstrual cycle as a key change during puberty in girls.

Mandate 2: Create awareness on Sexually Transmitted Infections, particularly HIV/AIDS, and encourage practices that promote healthy living.

Mandate 3: Sensitize families on inherited conditions.

Recently, RHU met the Mukasa family. Mr. Mukasa has normal colour vision, but his two sons cannot distinguish Red from Green colour. The doctor explained that this is a genetically inherited disorder.

Task:

a) Explain how the key puberty process in Mandate (1) above takes place in adolescent girls.
b) i) using Mukasa family as an example, explain how the disorder was passed on to the sons
ii) advise adolescents in the community on how to address the challenges highlighted in mandate (2) of RHU

Item 3 ASSHU MOCK 2026

A couple living with HIV has had three healthy children. Their fourth born however was born with pale skin, white hair and pink eyes. This worried them, since they were both dark-skinned but the doctors advised them to take care of the baby properly, since it was a genetic condition and so the baby would grow normally as others.

Task

(a) Using genetic symbols, show how the fourth born inherited the condition.

(b) Explain how the couple can

(i) continue living positively with their health status

(ii) take care of their fourth born child.

ITEM 3 KAMSSA MOCK 2026

Joan, a senior four learner at Seku Senior Secondary School engaged in a serious relationship with Fred, her boyfriend. Before completing her studies, she became pregnant while at school. Her friends in the dormitory advised her carry out an abortion though she hesitated and thus dropped out of school. She did not attend antenatal care and therefore encountered a number of challenges during pregnancy. At birth, it was discovered that she gave birth to a baby with pink eyes and white skin. This greatly perturbed her and Fred because they had never heard about such a condition.

Learner's task

(a). Identify the genetic disorder encountered and explain why Joan was right not to take her friends' advice.

(b) Explain to Fred and Joan to understand the likely cause of the genetic disorder their newborn baby was suffering from.

(c) What should parents do for their children to prevent them from encountering a situation similar to that of Joan while still at school?

Item 3 UMTA MOCK 2026

A couple was blessed with five children born in three births, each separated by two years. The children were of different sexes, physical appearance and showed a number of variations. The table below summarizes notable features about the children.

Pregnancy/birth number	Status	Sex	Physical appearance	Degree of variation
1st	Twins	Boys	Identical	Slight
2nd	Twins	Boys	None identical	Much
3rd	Single baby	Girl	✓ Flat face ✓ Short neck ✓ Small ears	Very much

Task:

(a) Explain how,

(i) the 1st and 2nd pregnancy/ birth numbers with such physical appearance arise within the mother's womb?

(ii) the much variation came about in the 2nd Birth number 'pregnancy'

Item 3 LUDISSEB MOCK 2026

Daniel and Rose produced a baby. The baby has swollen and painful joints, frequent tiredness, shortness of breath and dizziness. When Rose got pregnant again, Dan advised her to abort thinking that they would get a child with similar condition. However, when Dan and Rose went to Hospital concerning their baby's condition, the doctor told them that, the health challenges were due to the couple being heterozygous for a genetic condition.

Task

(a) Explain how

(i) The genetic condition resulted into the health challenges in the baby.

(ii) The baby inherited the genetic condition from the parents.

(b) How can Daniel and Rose manage the genetic condition of their baby to ensure better life?

ITEM 3 WAKISSHA MOCK 2026

A couple living with HIV has three children with normal vision, however the fourth child, a boy was found to have difficulty in distinguishing between red and green colours. This caused concern to the parents since neither of them had any noticeable vision problems. After medical examination, the doctor diagnosed the child with red-green colour blindness, a genetic condition linked to the X-chromosomes. The doctor re-assured them that the child could live a normal life with proper support.

Task

(a) Using genetic symbols show how the condition in their fourth child came about.

(b) Explain how the couple can;

(i) Continue living positively with their health status.

(ii) Take care of their fourth born child.

Item 3 UTES MOCK 2026

Mary and Joseph have been married for 20 years and have four girls and one boy. When they produced the fifth girl, Joseph decided to abandon the family and started having unprotected sex with other women in quest for more boys and so he became HIV positive. Their eldest boy had colour blindness, which is affecting his performance at school. Joseph finally produced a baby boy outside his marriage, however, the child had Down's syndrome.

Task

(a) (i) Genetically show how their eldest son inherited the condition that is affecting his performance at school.

(b) Explain how Joseph can manage his health status.

(ii) The condition in the boy child born outside marriage can be managed.

(i) Explain how the condition present in the boy born outside Joseph's marriage came about.

SECTION B PART 1 (ITEM 4 AND 5)

ITEM 4 **ACEITEKA 2026**

Mr. Okoli is a known farmer in kapeka. He bought a large piece of land near the permanent swamp which supplies the community with water and fish for food. When it was nearing planting season, he cleared most vegetation to open up a farm land. During the planting season, he sprayed the swamp with insecticide to kill insects in the swamp to avoid pests. In that year, the community experienced several challenges which were attributed to Okoli's actions

Task

a) Explain the challenges likely to be faced by the community due to Okoli's action

b) Advice Okoli on how he can do his farming activities without harming the community

ITEM 5 ACEITEKA 2026

Part of a natural swamp was given out to an investor to construct a factory. The investor cleared all swamp vegetation, poured large volume of soil, which he compacted into the swamp before construction began. After some time, the surrounding community complained, of rampant floods and drying of natural water sources.

Task

(a) Explain the problems that the investor caused to the natural environment and suggest possible measures to overcome them.

(b) How beneficial is such a natural environment when left undisturbed**Item 4 UTES MOCK 2026**

A certain town has a weekly market. The market does not have enough latrines for the traders and most of them use the nearby forest for disposal of their waste. They also damp polythene bags in the nearby gardens and some waste from the market are dumped in the nearby swamp. Traders eat half-cooked meat prepared by food vendors and most trees around the market have been cut down for poles to be used in the market. Recently, several challenges have been reported and the authorities attribute them to the actions of the market users.

Task

(a) Explain how the actions of the market users have led to challenges in the area.

(b) What can be done to address the challenges?

Item 5 UTES MOCK 2026

During the recent dry season, Isima set the dry grassland on fire and cut down all the trees in an attempt to clear a large portion of land for crop growing. After some time, people started complaining of destruction of their crops by strong winds, reduced catch by hunters, breathing difficulties, and attacks by wild animals.

Task

(a) Explain how the challenges faced by the people were brought about by Isima's actions.

(b) Why was it important for Mr. Isima to leave that area undisturbed?

ITEM 4 JJEB 2026

A farmer cleared a large area of natural vegetation to establish a crop field. He began growing maize intercropped with millet and, during the first three planting seasons, he obtained high yields. After several seasons of growing the same crops, the yields started to decline, and pest infestations became more severe. In response, the farmer began applying artificial fertilizers and broad-spectrum

pesticides every season. Although yields improved temporarily, they later declined again. He also noticed that the fruit trees growing near the crop field produced fewer fruits than before.

Task

a) Explain how the activities of the farmer caused the observed challenges.

b) Advise the farmer on how he can sustainably ensure high yields.

ITEM 5 JJEB 2026

In the dry plains of a cattle corridor in Uganda, residents cut down trees for charcoal burning, burn grass during the dry season to control parasites and keep large herds of cattle. As a result, the hunters have observed a reduction in wild animals in the area, increased populations of rats in their homes and increased environmental temperature.

Task

a) Explain how the challenges in the area were brought about by the activities of the residents.

b) Why is it important for the residents to sustainably use the area?

ITEM 4 KASSPHA MOCK 2026

A farmer converted a large area of natural grassland into a commercial sugarcane plantation. He removed all native grasses and trees, ploughed the land deeply, and planted sugarcane in monoculture. He also uses large amounts of chemical fertilizers, herbicides, and pesticides. He diverted irrigation water from nearby streams. Recently, he noticed that the soil has become compacted, the water table has dropped, and the streams have become polluted. The farmer is also experiencing reduced sugarcane yields despite increased chemical use.

Tasks

a) Explain to the farmer the environmental challenges he has caused.

b) Explain why it is important for the farmer to adopt more sustainable farming practices.

ITEM 5 KAPSSPHA 2026

A chemical factory was established on a large river bank, with a view that it needs constant supply of water for its machinery and activities. Overtime, the river developed a lot of algal blooms, and the fishermen complained of reducing numbers of fish species previously caught in large numbers. It was also noted that during the establishment of the factory, a lot of soil was heaped along the river bank, and so a lot of deposition goes into the river. Environmentalists have warned the government about pending dangers especially during rainy seasons.

Tasks

a) Explain to the relevant authorities the origin of the problems

b) Sensitize community on the relevancy of the maintaining such communities in their natural form

Item 4 UTEC 2026

Mabira Ridge Forest Reserve was once a balanced montane ecosystem (dynamic and highly elevated). Shea and Ironwood trees formed the main plant base of the food web. They provided food for a large population of Forest duikers. The duiker numbers were kept in check by a healthy population of Serval cats, the main predators. In the last five years, illegal trapping has sharply reduced the number of serval cats. During this same period, conservation biologists working with local forest rangers monitored key ecosystem indicators. Their records for 2021 and 2026 are shown in the table below.

Indicator	Year 2000	Year 2025
Serval cats	150	5
Forest duikers	200	700
Number of trees(Shea and Iron wood)	High	Low
Level of topsoil nutrients	High	Low
Cases of crop raiding by Forest duikers	Low	High

Task:

a) Explain how the decline in Serval cat numbers could have led to the changes recorded for each indicator in the table.

b) Suggest practical steps that can be taken to restore the forest ecosystem to its 2000 condition.

Item 5 UTEC 2026

River Basin Community, located next to a newly built hydroelectric dam created upstream. To improve household income, residents started large-scale rice cultivation along the dam's edge. The farms depend heavily on chemical fertilizers and raw animal waste. When it rains, wash-off and farm drainage flow straight into the reservoir. The dam has two critical roles for the area: it supports the community's main fishing activities, and it supplies drinking water to a fast-growing market center downstream. Over five years, a multi-agency team made up of Fisheries, Environmental and Public Health officers monitored changes in the ecosystem and human health. Their data for 2021 and 2026 is shown in the table below.

Table: Environmental, Ecological and Health Indicators (2021 vs. 2026)

Category	2021	2026
Water clarity	clear	Highly turbid and muddy
Water hyacinth and algae	5%	85%

Dissolved oxygen	Normal	Very low
Tilapia fish population	45000	4200

b) (i) Using the Mukasa family as an example, explain how the disorder was passed on to the sons.

(ii) Advise adolescents in the community on how to address the challenges highlighted in Mandate (2) of RHU.

b) Suggest practical ways Mugerwa can implement the doctor's dietary advice to manage his condition and improve his ability to carry out daily activities.

Item 4 ASSHU 2026

An agrochemical factory was established in a swamp which had a flowing river supporting community members with fresh water and mud fish. The factory produces a lot of smoke into the atmosphere and effluents into the swamp. After Ten years, the water in the river turned blackish with a lot of algal blooms. The mud fish harvests reduced and many community members were diagnosed with respiratory diseases. The community members have recorded serious complaints with the local leaders.

Task

(a) Explain how the Agro-chemical factory has affected the ecosystem in the area.

(b) Why should such ecosystems be conserved?

Item 5 ASSHU 2026

In 2018, the Government of Uganda decided to give away part of Mabira forest to Metha Group of Companies to extend sugar cane plantations. The agriculture-investor cleared the forest in the area, used tractors to plough the land and planted the sugar canes. For several years of extensive sugar cane growing, the investor applies artificial fertilizers for better yields of sugar canes. He often burns down the garden during harvest to obtain sugarcanes for processing. After several years, the area now experiences reduced rainfall amounts and the investor complains of reduced sugar cane yields despite using fertilizers extensively.

Task

(a) Explain how the investor's farming practices have resulted into the challenges experienced in the area.

(b) How can the investor use the environment without much damage?

Task:

a) Explain how the farming practices described could have led to the changes observed in the dam's ecosystem.

b) Suggest sustainable actions the community can take to protect both their livelihood and the dam's water quality and give the benefits of conserving such biodiversity

ITEM 4 KAMSSA 2026

Mabira forest is one of Uganda's biggest forests with indigenous trees and plants of various species. In bid to expand sugar production, an Indian investor decided to hire part of its land from the government for sugarcane planting. He cleared trees to create land for sugarcane growing, applied artificial fertilizers rich in nitrates and phosphates into the waterlogged soils, used heavy machinery that produced fumes into the atmosphere and burnt some areas. This did not amuse local residents who sought for government intervention due to drastic environment changes that were encountered in their communities.

Learner's task.

(a) Explain the effects of the various activities by the investor on the environment and living organisms in the forest.

(b) Explain why it was important for the local residents to seek government intervention.

ITEM 5 KAMSSA 2026

Before Namanve became an industrial area, there was Namanve forest reserve, a number of swamps with much papyrus, other swampy vegetation cover and a variety of species of organisms. In the bid to expand the country's economy and also improve on revenue collection, the president encouraged investors to upgrade the area by setting up more manufacturing industries in the area. Currently, there is a lot of flooding in the area when there are heavy downpours, increased malaria cases, little rainfall received in the area and respiratory associated diseases amongst the residents.

Learner's task

(a) Explain the challenges encountered by the residents and why it was important for the government to conserve such an area?

(b) Explain what could be done by the local residents to overcome the likely challenges encountered in the area.

Item 4 UMTA 2026

A certain city has been faced with many challenges due to wetland destruction. People near these wetlands have cleared vegetation, pour large volumes of soil in swamps to construct houses and factories, they also dump plastics into the wetlands and release untreated industrial wastes in these wetlands. The authorities attribute the challenges to these practices and recently, they decided to demolish/destroy buildings that had been constructed in a large wetland and evicted/chased away all the people who were staying in the wetland area.

However, the evicted people were unhappy with the Authorities' action.

Task:

(a) Explain how people's actions caused challenges in the area.

(b) (i) What could be done to minimize the challenges in the area?

(ii) Of what importance to man would it be if such area were left undisturbed?

Item 5 UMTA 2026

After the Kitezi garbage slide over people's homes that destroyed lives and property, the city council resolved to stop dumping garbage in the affected area. This resulted into poor waste management in Kampala City especially in the suburbs. People started dumping domestic wastes in nearby swamps, burning plastics and dumping garbage in drainage channels and on streets. As a result, the communities are experiencing several challenges.

Task:

(a) Explain the challenges likely to be faced by the city residents if they continue with their way of waste management in Kampala.

(b) Advise the city residents on how to handle the problem without causing damage to the environment.

Item 4 LUDISSEB 2026

John acquired a piece of land near a community river to start a commercial goat farming project. The land was originally covered with natural forest. To prepare it, he cleared all the trees and used tractors to plough the area. He later burnt the cut trees to produce charcoal, which he sold to raise extra money for his project. After setting up the farm, the surrounding community began to experience challenges in their local environment.

Task

(a) Explain the possible environmental challenges that may have resulted from John's activities on the land and the nearby community.

(b) Suggest possible solutions to the challenges that would promote environment recovery

Item 5 LUDISSEB 2026

A civil war broke out in one of the hilly communities in Africa, during which wild animals were hunted for food, plantations, grasslands and people's homes were burnt down, and this produced thick smoke ever seen in the atmosphere. The land was left bare. After the war the survivors in the community tried to grow some crops to fight food insecurity but the yields were low and poor in quality. They also complain always about the snakes and other dangerous animals that attack them.

Task

(a) Explain the environmental challenges facing the community

(b) Suggest possible solutions to the challenges.

Item 4 WAKISSHA MOCK 2026

Residents of Kayanja Village depended on a nearby wetland for clean water, fishing and harvesting papyrus for making mats and baskets. The wetland also supported a wide variety of birds, insects

and helped regulate flooding during rainy season. Over time, a real estate developer drained a large portion of the wetland and filled it with sand to construct residential houses. In addition, waste water from houses was directed into a small channel that originally fed the wetland.

After a few years residents began to notice reduced fish populations, frequent flooding during heavy rains, foul smelling water, and increase in water borne diseases.

Task

(a) Explain how the developer's activities lead to the loss of the benefits previously obtained from the wetland by both the environment and the residents.

(b) Suggest the importance of conserving wetland like the one described in the scenario.

Item 5 WAKISSHA MOCK 2026

The Uganda Wild Life Authority conducted a study in Murchison fall National Park and surrounding communities to access the impact of increasing human activities on Wildlife population and ecosystem stability. Over the past five years there has been; expansion of farmland into protected areas, increased poaching of herbivores such as antelopes, charcoal burning and deforestation near Park boundaries.

At the same time communities have reported rising cases of crop destruction by antelopes, increased attacks on livestock by lions and reduced fish catch from the nearby water bodies.

The figure below shows changes in wild life population fish and human activities (2016-2020).

Year	Antelope population	Lion population	Poaching Cases	Fish Population
2016	12,000	320	80	70
2017	11,200	310	110	65
2018	10,060	290	150	55
2019	8,800	270	210	40
2020	7,500	212	260	32

The changes in fish population were linked to industrial discharge and sedimentation from farming.

Tasks

(a) Explain the effect of human activities on the ecosystem.

(b) Explain how these changes hinder Social-economic development.

(c) Suggest solutions to the challenges and benefits of implementing the solutions.

ITEM 4 JJEB 2026

A farmer cleared a large area of natural vegetation to establish a crop field. He began growing maize intercropped with millet and, during the first three planting seasons, he obtained high yields. After several seasons of growing the same crops, the yields started to decline, and pest infestations became more severe. In response, the farmer began applying artificial fertilizers and broad-spectrum pesticides every season. Although yields improved temporarily, they later declined again. He also noticed that the fruit trees growing near the crop field produced fewer fruits than before.

Task

a) Explain how the activities of the farmer caused the observed challenges.

b) Advise the farmer on how he can sustainably ensure high yields.

ITEM 5 JJEB 2026

In the dry plains of a cattle corridor in Uganda, residents cut down trees for charcoal burning, burn grass during the dry season to control parasites and keep large herds of cattle. As a result, the hunters have observed a reduction in wild animals in the area, increased populations of rats in their homes and increased environmental temperature.

Task

a) Explain how the challenges in the area were brought about by the activities of the residents.

b) Why is it important for the residents to sustainably use the area?

ITEM 4 KASSPHA MOCK 2026

A farmer converted a large area of natural grassland into a commercial sugarcane plantation. He removed all native grasses and trees, ploughed the land deeply, and planted sugarcane in monoculture. He also uses large amounts of chemical fertilizers, herbicides, and pesticides. He diverted irrigation water from nearby streams. Recently, he noticed that the soil has become compacted, the water table has dropped, and the streams have become polluted. The farmer is also experiencing reduced sugarcane yields despite increased chemical use.

Tasks

a) Explain to the farmer the environmental challenges he has caused.

b) Explain why it is important for the farmer to adopt more sustainable farming practices.

ITEM 5 KAPSSPHA 2026

A chemical factory was established on a large river bank, with a view that it needs constant supply of water for its machinery and activities. Overtime, the river developed a lot of algal blooms, and the fishermen complained of reducing numbers of fish species previously caught in large numbers. It was also noted that during the establishment of the factory, a lot of soil was heaped along the river bank, and so a lot of deposition goes into the river. Environmentalists have warned the government about pending dangers especially during rainy seasons.

Tasks

a) Explain to the relevant authorities the origin of the problems

b) Sensitize community on the relevancy of the maintaining such communities in their natural form

Item 4 UTEC 2026

Mabira Ridge Forest Reserve was once a balanced montane ecosystem (dynamic and highly elevated). Shea and Ironwood trees formed the main plant base of the food web. They provided food for a large population of Forest duikers. The duiker numbers were kept in check by a healthy population of Serval cats, the main predators. In the last five years, illegal trapping has sharply reduced the number of serval cats. During this same period, conservation biologists working with local forest rangers monitored key ecosystem indicators. Their records for 2021 and 2026 are shown in the table below.

Indicator	Year 2000	Year 2025
Serval cats	150	5
Forest duikers	200	700
Number of trees(Shea and Iron wood)	High	Low
Level of topsoil nutrients	High	Low
Cases of crop raiding by Forest duikers	Low	High

Task:

a) Explain how the decline in Serval cat numbers could have led to the changes recorded for each indicator in the table.

b) Suggest practical steps that can be taken to restore the forest ecosystem to its 2000 condition.

Item 5 UTEC 2026

River Basin Community, located next to a newly built hydroelectric dam created upstream. To improve household income, residents started large-scale rice cultivation along the dam's edge. The farms depend heavily on chemical fertilizers and raw animal waste. When it rains, wash-off and farm drainage flow straight into the reservoir. The dam has two critical roles for the area: it supports the community's main fishing activities, and it supplies drinking water to a fast-growing market center downstream. Over five years, a multi-agency team made up of Fisheries, Environmental and Public Health officers monitored changes in the ecosystem and human health. Their data for 2021 and 2026 is shown in the table below.

Table: Environmental, Ecological and Health Indicators (2021 vs. 2026)

Category	2021	2026
Water clarity	clear	Highly turbid and muddy
Water hyacinth and algae	5%	85%
Dissolved oxygen	Normal	Very low
Tilapia fish population	45000	4200

b) (i) Using the Mukasa family as an example, explain how the disorder was passed on to the sons.

(ii) Advise adolescents in the community on how to address the challenges highlighted in Mandate (2) of RHU.

b) Suggest practical ways Mugerwa can implement the doctor's dietary advice to manage his condition and improve his ability to carry out daily activities.

Item 4 ASSHU 2026

An agrochemical factory was established in a swamp which had a flowing river supporting community members with fresh water and mud fish. The factory produces a lot of smoke into the atmosphere and effluents into the swamp. After Ten years, the water in the river turned blackish with a lot of algal blooms. The mud fish harvests reduced and many community members were diagnosed with respiratory diseases. The community members have recorded serious complaints with the local leaders.

Task

(a) Explain how the Agro-chemical factory has affected the ecosystem in the area.

(b) Why should such ecosystems be conserved?

Item 5 ASSHU 2026

In 2018, the Government of Uganda decided to give away part of Mabira forest to Metha Group of Companies to extend sugar cane plantations. The agriculture-investor cleared the forest in the area, used tractors to plough the land and planted the sugar canes. For several years of extensive sugar cane growing, the investor applies artificial fertilizers for better yields of sugar canes. He often burns down the garden during harvest to obtain sugarcanes for processing. After several years, the area now experiences reduced rainfall amounts and the investor complains of reduced sugar cane yields despite using fertilizers extensively.

Task

(a) Explain how the investor's farming practices have resulted into the challenges experienced in the area.

(b) How can the investor use the environment without much damage?

Task:

a) Explain how the farming practices described could have led to the changes observed in the dam's ecosystem.

b) Suggest sustainable actions the community can take to protect both their livelihood and the dam's water quality and give the benefits of conserving such biodiversity

ITEM 4 KAMSSA 2026

Mabira forest is one of Uganda's biggest forests with indigenous trees and plants of various species. In bid to expand sugar production, an Indian investor decided to hire part of its land from the government for sugarcane planting. He cleared trees to create land for sugarcane growing, applied artificial fertilizers rich in nitrates and phosphates into the waterlogged soils, used heavy machinery that produced fumes into the atmosphere and burnt some areas. This did not amuse local residents who sought for government intervention due to drastic environment changes that were encountered in their communities.

Learner's task.

(a) Explain the effects of the various activities by the investor on the environment and living organisms in the forest.

(b) Explain why it was important for the local residents to seek government intervention.

ITEM 5 KAMSSA 2026

Before Namanve became an industrial area, there was Namanve forest reserve, a number of swamps with much papyrus, other swampy vegetation cover and a variety of species of organisms. In the bid to expand the country's economy and also improve on revenue collection, the president encouraged investors to upgrade the area by setting up more manufacturing industries in the area. Currently, there is a lot of flooding in the area when there are heavy downpours, increased malaria cases, little rainfall received in the area and respiratory associated diseases amongst the residents.

Learner's task

(a) Explain the challenges encountered by the residents and why it was important for the government to conserve such an area?

(b) Explain what could be done by the local residents to overcome the likely challenges encountered in the area.

Item 4 UMTA 2026

A certain city has been faced with many challenges due to wetland destruction. People near these wetlands have cleared vegetation, pour large volumes of soil in swamps to construct houses and factories, they also dump plastics into the wetlands and release untreated industrial wastes in these wetlands. The authorities attribute the challenges to these practices and recently, they decided to demolish/destroy buildings that had been constructed in a large wetland and evicted/chased away all the people who were staying in the wetland area.

However, the evicted people were unhappy with the Authorities' action.

Task:

(a) Explain how people's actions caused challenges in the area.

(b) (i) What could be done to minimize the challenges in the area?

(ii) Of what importance to man would it be if such area were left undisturbed?

Item 5 UMTA 2026

After the Kitezi garbage slide over people's homes that destroyed lives and property, the city council resolved to stop dumping garbage in the affected area. This resulted into poor waste management in Kampala City especially in the suburbs. People started dumping domestic wastes in nearby swamps, burning plastics and dumping garbage in drainage channels and on streets. As a result, the communities are experiencing several challenges.

Task:

(a) Explain the challenges likely to be faced by the city residents if they continue with their way of waste management in Kampala.

(b) Advise the city residents on how to handle the problem without causing damage to the environment.

Item 4 LUDISSEB 2026

John acquired a piece of land near a community river to start a commercial goat farming project. The land was originally covered with natural forest. To prepare it, he cleared all the trees and used tractors to plough the area. He later burnt the cut trees to produce charcoal, which he sold to raise extra money for his project. After setting up the farm, the surrounding community began to experience challenges in their local environment.

Task

(a) Explain the possible environmental challenges that may have resulted from John's activities on the land and the nearby community.

(b) Suggest possible solutions to the challenges that would promote environment recovery

Item 5 LUDISSEB 2026

A civil war broke out in one of the hilly communities in Africa, during which wild animals were hunted for food, plantations, grasslands and people's homes were burnt down, and this produced thick smoke ever seen in the atmosphere. The land was left bare. After the war the survivors in the community tried to grow some crops to fight food insecurity but the yields were low and poor in quality. They also complain always about the snakes and other dangerous animals that attack them.

Task

(a) Explain the environmental challenges facing the community

(b) Suggest possible solutions to the challenges.

Item 4 WAKISSHA MOCK 2026

Residents of Kayanja Village depended on a nearby wetland for clean water, fishing and harvesting papyrus for making mats and baskets. The wetland also supported a wide variety of birds, insects and helped regulate flooding during rainy season. Over time, a real estate developer drained a large portion of the wetland and filled it with sand to construct residential houses. In addition, waste water from houses was directed into a small channel that originally fed the wetland.

After a few years residents began to notice reduced fish populations, frequent flooding during heavy rains, foul smelling water, and increase in water borne diseases.

Task

(a) Explain how the developer's activities lead to the loss of the benefits previously obtained from the wetland by both the environment and the residents.

(b) Suggest the importance of conserving wetland like the one described in the scenario.

Item 5 WAKISSHA MOCK 2026

The Uganda Wild Life Authority conducted a study in Murchison fall National Park and surrounding communities to access the impact of increasing human activities on Wildlife population and ecosystem stability. Over the past five years there has been; expansion of farmland into protected areas, increased poaching of herbivores such as antelopes, charcoal burning and deforestation near Park boundaries.

At the same time communities have reported rising cases of crop destruction by antelopes, increased attacks on livestock by lions and reduced fish catch from the nearby water bodies.

The figure below shows changes in wild life population fish and human activities (2016-2020).

Year	Antelope population	Lion population	Poaching Cases	Fish Population
2016	12,000	320	80	70
2017	11,200	310	110	65
2018	10,060	290	150	55
2019	8,800	270	210	40
2020	7,500	212	260	32

The changes in fish population were linked to industrial discharge and sedimentation from farming.

Tasks

(a) Explain the effect of human activities on the ecosystem.

(b) Explain how these changes hinder Social-economic development.

(c) Suggest solutions to the challenges and benefits of implementing the solutions.

SECTION B PART II (ITEM 6 AND 7)

ITEM 6 **ACEITEKA 2026**

Mr. Zimbali took a cup of porridge before going for his garden work. He started digging with vigor but later felt muscle pain and fatigue. When he became ill at one time, he went for medical checkup and was found with high blood pressure and arteriosclerosis. The doctor informed him that he needs a combination of management interventions to improve his health condition.

Task

(a) (i) Describe how the porridge enabled Mr. Zimbali carry out his exercises in the gym.

(ii) Explain the causes of the challenges his body experienced during digging and those discovered during medical checkup.

(b) Suggest management interventions to improve Mr. Zimbali's health.

ITEM 7 ACEITEKA 2026

A patient with a habit of smoking had been diagnosed with coronary heart disease. During a medical checkup, a doctor used a stethoscope to find out how blood moves within his body pumping organ. Further medical tests revealed that his red blood cells had low oxygen loading, a reason why he was generally weak.

Task

(a) Provide information to explain

(i) What the doctor wanted to find out during the medical examination.

(ii) How the patient's habit resulted into the health challenges diagnosed in him.

(b) Suggest possible solutions to improve the patient's condition.

Item 6 UTES MOCK 2026

During first term holidays, Tom went back home to help her mother with garden work. One day as he started digging, he was energetic, breathing normally and having normal heart beat. As time went by, he became weaker, breathing faster, having faster heartbeat and feeling pain in his arms.

He decided to rest but continued breathing deeply and the pain in the arms went on reducing. Upon going back home, he was given a cup of millet porridge. Thirty minutes later, he became stronger.

Task

(a) Explain the challenges Tom's body faced.

(b) How were the challenges in his body overcome?

Item 7 UTES MOCK 2026

In an attempt to maintain her slender figure, Irene started avoiding having solid meals but would take dietary pills and sweets. She also smokes cigarettes with her friends. However, she has developed breathing difficulties, complains of toothache and was recently diagnosed with high blood

pressure.

Task

(a) Explain how Irene's lifestyle caused her the health challenges.
(b) What advice can you give to Irene to live a better life?

ITEM 6 JJEB MOCK 2026

A five-year-old boy in primary one, suffered nutritional deficiencies which presented the following signs and symptoms; bow-shaped legs, bleeding gums, pot belly and a larger body size for his age. His Physical Education teacher realized that he is extremely slow during physical exercises but encouraged him to continue in order to improve his health. One day, during exercise, the teacher observed that the boy's heartbeat and breathing rate increased so much and he was complaining of muscle pain. She advised him to rest but the boy continued breathing fast for a while before returning to the normal rate.

Task

a) Explain the causes of the boy's health challenges.

b) Explain the body changes that occurred during and after exercise.

ITEM 7 JJEB MOCK 2026

A veterinary officer has been mixing his drugs while smoking cigarettes inside his poorly ventilated drug shop before going out to treat animals for his customers. He usually misses lunch since he spends the whole day attending to his various customers. Recently, he became ill. He was taken to hospital and the clinical laboratory report indicated that he has broken alveolar walls, very few cilia lining the air passages, wounds in the inner lining of the stomach and few villi in the ileum.

Task

a) Explain how the officer's lifestyle and working conditions led to the observations in the laboratory report.

b) Advise the veterinary officer on how he can improve his health and working conditions.

ITEM 6 KASSPHA MOCK 2026

Grace, of blood group B, was involved in a terrible boda-boda accident, sustained deep cuts, and lost a massive amount of blood. Due to the heavy bleeding, her blood volume and blood pressure dropped dangerously low. This drop in blood pressure immediately affected her kidneys, disrupting the process of ultrafiltration. To save her life, Grace's brain released ADH since her body could not afford to lose any more fluid. Because her body reabsorbed almost all the water, Grace produced only a tiny amount of very thick, dark urine. To save her, the doctors needed to give her an emergency blood transfusion. Her relatives were confused about who could give her blood since the health center supplies were low.

Tasks:

a) Describe the sequence of events that occurred in Grace's body from the moment of the accident to the production of thick, dark urine.

b) Without referring Grace to any hospital, suggest with reasons which relatives with particular blood groups could donate blood to Grace and those who cannot.

ITEM 7 KASSPHA MOCK 2026

Kefa, a teenager who had spent two years in the company of chain smokers, developed a persistent dry cough, chest pain, breathing difficulties, and eventually coughed up blood. After being admitted to hospital, doctors found that his alveoli had been severely damaged. Further examination revealed that Kefa was severely malnourished due to eating very small portions of a purely carbohydrate diet, resulting in low hemoglobin levels and constantly feeling weak.

Tasks

a)

i) Explain the causes of Kefa's symptoms and poor health.

ii) Recommend and explain appropriate solutions to improve his health.

b) Suggest with reasons, a diet for Kefa that will address his malnutrition and support recovery.

ITEM 6

A five-year-old boy in primary one, suffered nutritional deficiencies which presented the following signs and symptoms; bow-shaped legs, bleeding gums, pot belly and a larger body size for his age. His Physical Education teacher realized that he is extremely slow during physical exercises but encouraged him to continue in order to improve his health. One day, during exercise, the teacher observed that the boy's heartbeat and breathing rate increased so much and he was complaining of muscle pain. She advised him to rest but the boy continued breathing fast for a while before returning to the normal rate.

Task

a) Explain the causes of the boy's health challenges.

b) Explain the body changes that occurred during and after exercise.

ITEM 7

A veterinary officer has been mixing his drugs while smoking cigarettes inside his poorly ventilated drug shop before going out to treat animals for his customers. He usually misses lunch since he spends the whole day attending to his various customers. Recently, he became ill. He was taken to hospital and the clinical laboratory report indicated that he has broken alveolar walls, very few cilia lining the air passages, wounds in the inner lining of the stomach and few villi in the ileum.

Task

a) Explain how the observations in the report led to the officer's ill health.

b) Apart from treatment, what advice can you give to him to improve his health?

Item 6 UTEC MOCK 2026

Mr. Daniel Mwesigwa has spent the last 30 years working in a cigar-rolling factory in Mbale. The workshop is stuffy and poorly aired. Most of the staff members smoke on the job, so Daniel breathes in a lot of tobacco fumes every day. Because of overtime shifts, he usually eats only one meal a day, mostly cassava and black tea. Lately, Daniel developed a long-term cough, feels worn out all the time, and gets out of breath easily.

At the hospital, tests showed he is severely anemic, his bones are fragile, and his gums bleed often. Doctors said he needs a blood transfusion urgently. Daniel is blood group O. His wife, Amina, who is blood group A, volunteered to donate. The medical team refused her blood, which made Amina angry and hurt.

Task:

a) Explain:

i) To Amina, why she could not donate her blood to Daniel, and the danger of giving it.

ii) How Daniel's job conditions and eating pattern have caused the health problems he is facing.

b) Explain the urgent medical care and lifestyle adjustments Daniel should make to recover and bring his body back to normal function.

Item 6 ASSHU MOCK 2026

Joan has been smoking cigarettes, eating a lot of fatty meat and drinking fluids with high sugar content. When she went for medical examination, her BMI was found to be higher than normal. She had developed swollen feet, had breathing difficulty and was diagnosed with cardio-vascular disease. Joan's vision had also become blurred.

Task:

(a) Justify Joan's health problems in relation to her lifestyle and feeding habits.

(b) Apart from medical treatment, how can Joan improve her health conditions?

Item 7 ASSHU MOCK 2026

David's 3-year-old son was attacked by sickness that resulted in the breathing difficulties, high body temperature, vomiting and sores in the mouth and ulcers in the small intestines. The baby was rushed to the hospital and after some treatment, the breathing normalized and the vomiting ceased. The doctors advised that although the baby was still anemic, the most appropriate treatment is proper diet that can enable the baby fully recover.

Task

(a) Explain how the sickness affected the normal functioning of the baby's body.

(b) Suggest an appropriate diet with reasons which will enable the baby to recover as per the Doctor's advice.

Item 7 UTEC 2026

During the National Youth Skills Expo in Gulu, two students were picked for the 2-hour Furniture Making Challenge. The task required constant standing, cutting, and assembling wood.

At the 60-minute halfway point, Ivan ate a large plate of posho and beef stew before continuing. Grace took a small bottle of mixed fruit juice with dates and honey, and then went back to work.

In the last hour, Grace stayed focused and finished her table first. Ivan slowed down, complained of a full, heavy stomach and felt faint. Their habits during practice week were different:

Ivan usually had one big, starchy meal right before long practice sessions.

Grace ate a balanced diet with whole grains, fish, vegetables, fruits, and drank water regularly.

Task:

a) (i) Explain how the mouth and the pancreas helped in digesting Ivan’s meal at the halfway point.

(ii) Explain reasons why Grace was able to complete the challenge better than Ivan.

b) Suggest and explain changes Ivan should make to his diet and routine to improve his endurance and performance.

ITEM 6 KAMSSA MOCK 2026

Kasango is a businessman in Masaka town who spends his leisure time drinking alcohol and smoking cigarettes with his peers. He oftenly feeds on fatty meat and prefers eating foods with a lot of sugars from a local restaurant and thus added a lot of body weight. His doctor advised him to engage in regular physical exercises in order to keep him physically fit and to prevent him from suffering from some health-related problems. However, during his first visit to the gym, he experienced heavy breathing, increased heart rate, painful muscle cramps and sweated a lot.

Learner’s task

(a) Explain the possible causes of Kasango’s experience while exercising.

(b) Apart from engaging in physical exercise, how can you advise him to manage his lifestyle?

ITEM 7 KAMSSA MOCK 2026

While watching last year’s Olympic games on the television set, Cheptegei who represented Uganda in the games won the race and was awarded a medal. However, before the competitions began, he was given glucose powder by his coach as an energy booster. During the race, his heartbeat and sweating rate increased. He was also seen breathing deeply as he ran around the pitch with a lot of fatigue. Finally, he won the race and all these disappeared and was able to move to receive his medal and also celebrate his victory.

Learner's task

(a) Explain the challenges experienced by Cheptegei during the race.

(b) How Cheptegei was able to move to receive his medal, and how his body returned to a normal state after the race.

Item 6 UMTA 2026

While in the hospital, a diabetic man was requested to do a urinalysis test to assess the functioning of his kidney. The results below were extracted from the laboratory report of the hospital.

Test Specimen	Test type	Observation	Test status
Urine	Benedict's test	Solution turned brown	Positive test
Urine	Biurette test	Solution turned purple	Positive test

Task:

(a) Explain how,

(i) the components detected in the man's urine are caused by a malfunction of the assessed organ?

(ii) high amounts of the components detected may affect normal body functioning?

(b) Suggest possible remedies to improve man's condition.

Item 7 UMTA 2026

Ahmed started working during his fasting period at a cement factory that produces a lot of dust and smoke. He always feels dizzy at work and after a while he began experiencing some chest pain and other body complications that made him ineffective at his job. When he visited the hospital, the doctor told him that he was suffering from emphysema, high blood pressure, hypoglycemia and muscle wasting.

Task:

(a) Explain how Ahmed's Health complications were as a result of his work and lifestyle?

(b) Advise Ahmed how he can handle the health challenges.

Item 6 LUDISSEB 2026

Mr. Kato's behavior of smoking and drinking alcohol has caused swelling of his lungs, blockage of pancreatic ducts and damage of the stomach lining (ulcers). He persistently feels general body weakness and fatigue.

Task

(a) Describe how the effects of Kato's behavior affected the general functioning of his body.

(b) Advise Kato on how to manage his health conditions.

Item 7 LUDISSEB 2026

In an attempt to treat leukemia, Peter a 17-year-old underwent a chemotherapy procedure which suppressed production of blood cells, weakened his heart muscles and reduced his appetite due to mouth sores (wound). He later started experiencing fatigue during exercise and frequent illness.

Task

(a) Explain how the side effects of chemotherapy affected the normal functioning of his body leading to frequent illness and fatigue.

(b) How can Peter manage the side effects experienced because of the procedure?

Item 7

During the National Youth Skills Expo in Gulu, two students were picked for the hour Furniture Making Challenge. The task required constant standing, cutting, and assembling wood. At the 60-minute halfway point, Ivan ate a large plate of posho and beef stew before continuing. Grace took a small bottle of mixed fruit juice with dates and honey, and then went back to work. In the last hour, Grace stayed focused and finished her table first. Ivan slowed down, complained of a full, heavy stomach and felt faint. Their habits during practice were different:

Ivan usually had one big, starchy meal right before long practice sessions.

Grace ate a balanced diet with whole grains, fish, vegetables, fruits, and drank water regularly.

Task:

a) (i) Explain how the mouth and the pancreas helped in digesting Ivan's meal at the halfway point.

(ii) Explain reasons why Grace was able to complete the challenge better than Ivan.

b) Suggest and explain changes Ivan should make to his diet and routine to improve his endurance and performance.

Item 6 WAKISSHA MOCK 2026

Sarah a 16-year-old student, for several weeks experienced frequent urination, excessive thirst, tiredness, blurred vision and un explained weight loss. One morning at school, she fainted during assembly and was rushed to a nearby health center. The health worker suspected diabetes and tested Sarah's blood glucose level before and after she ate a meal. Her urine was also tested for glucose and proteins.

Table 1 shows Sarah's Blood glucose levels.

Time	**Blood glucose levels mmol/l**

Before meal	12.5
1 hour after meal	19.8
2 hours after meal	17.6
4 hours after meal	14.2

Urine test results showed absence of proteins and presence of glucose; and the normal fasting glucose level is 4-6 mmol/l.

Task

(a) (i) Using the information in the scenario and data in the table 1, explain why the health worker suspected diabetes.

(ii) Explain how diabetes affected the functioning of Sarah's body.

(b) Suggest suitable ways Sarah can manage her condition without being referred to another hospital and explain what may happen to Sarah if the condition is NOT managed properly.

Item 7 WAKISSHA MOCK 2026

Chemongesi is a talented long-distance runner, who smokes regularly. Their home is located near a swampy area. Over the past six months, Chemongesi started experiencing frequent illnesses. Medical tests later confirmed that he has developed heart and respiratory complications, alongside recurrent malaria infections. His Coach noticed a steady decline in his athletic performance and collected the following data;

Table 2: Chemongesi's monthly performance.

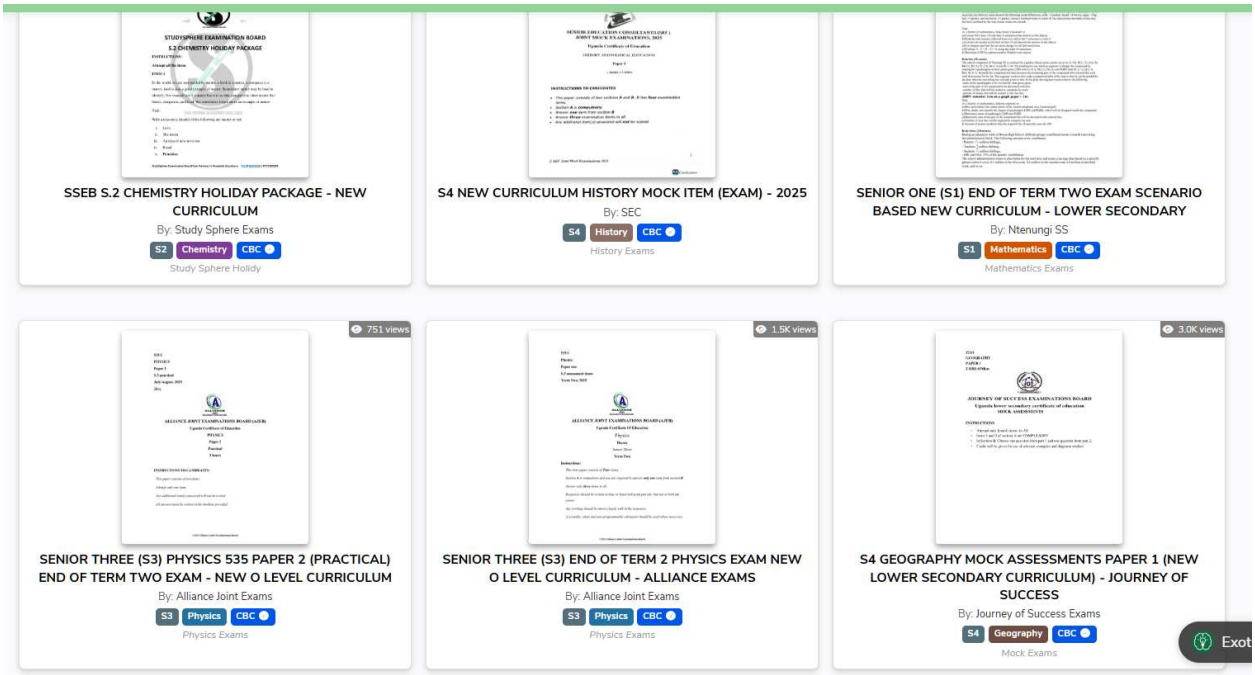
Month	Distance covered	Malaria episodes (number of times suffered)	Body Weight (Kg)	Lung function lung volume (cm^3)
January	6.5	0	60	420
February	6.2	1	59	400
March	5.8	2	57	370
April	5.1	2	55	340
May	4.3	3	53	310
June	3.5	3	50	280

Task

(a) Using the data provided, explain the decline in Chemo Ngesi’s sports performance.

(b) Suggest measures Chemongesi can take to manage his health condition and improve his-wellbeing.

This document was downloaded from https://exoticnotes.com



Do you need more papers for secondary?

Click
https://exoticnotes.com/papers/secondary

If you need papers for O level (S.1 – S.4)

Click
https://exoticnotes.com/papers/secondary/o-level

If you need papers for A level (S.5 – S.6)

Click
https://exoticnotes.com/papers/secondary/a-level