

# BIOLOGY

1. On her way back home, Claire a 14year old girl in form one at OLAM is attacked by unknown men who unfortunately sexually assaulted her. A week later her mother noticed that she was not ok and took her to the hospital. On full body examination the doctor confirmed her sexual assault. She was tested and the doctor unfortunately said that she had contracted HIV.
  - a) What is HIV in full?  
.....
  - b) In the doctor's explanation to Claire the doctor informs her that HIV is caused by a virus. However in your study of classification of living organisms, viruses where not placed in any of the five kingdoms. Give three reason why viruses where not classified as living organism?
  - c) However according to some characteristics of viruses, they somehow qualify to be living organisms. Give two characteristics of viruses that can qualify them to be living organisms
  - d) Using your knowledge on viruses explain to Claire how she can protect her present and future family from contracting the virus
2. As you are sweeping the class, you find a letter that your friend in writing to her mother informing her what they have learnt this term scientific names in particular. She had written the scientific name of a particular plant as ASIMINA TRILOBA.
  - a) Identify two mistakes that were made by this student while writing this scientific name
  - b) Write down the name correctly
  - c) From the name above, which name represents;
    - (i) The genus.....
    - (ii) The species.....
  - d) The letters below show scientific names of four organisms
    - P; *Pathera leo*
    - Q; *Canis lupus*
    - R; *Periplaneta Americana*

S; *Canis familiaris*

(i) From the organisms above name two organisms that are closely related.

.....  
.....

(ii) Give a reason for your answer in d(i) above

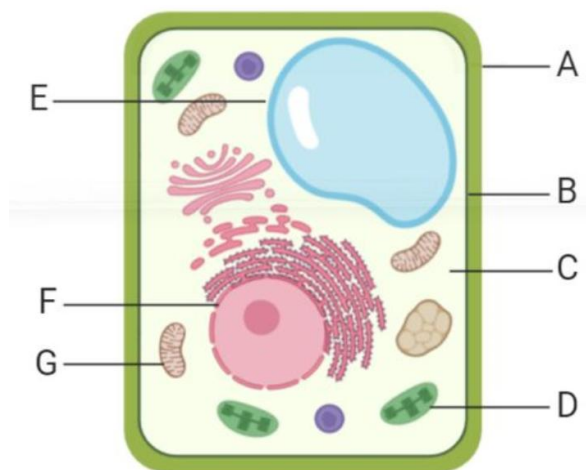
.....  
.....

(iii) Give the English names for the organisms below

R.....

P.....

3. A history teacher was passing through the class and saw the structure below.



a) Using his knowledge from secondary school he could identified that it was a cell but could not differentiate whether it was a plant cell or an animal cell. Using two observable feature on the diagram help the teacher to identify the type of cell

(i) Type of cell.....

(ii) Observable features

.....  
.....

b) The teacher was able to identify only the nucleus on the cell. Help the teacher to label the remaining parts of the cell

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

c) Name the organ where the cell above is most likely to be found

.....

d) How is the cell important to the organism where it found?

.....

e) Mention any other specialized cell that may be found in the same organism where the cell above was obtained

.....

END

## CHEMISTRY

### ITEM 1

Many farmers in Dandira village use ropes to graze their goats in fields. Mr. Okello a renowned trader in the area is planning to open up a stall to sell all sort of ropes without affecting environment. He wants to make good and strong ropes for his clients. Nylon and Sisal are some of the different materials proposed to him. However, Mr. Okello knows that choosing quality ropes depends on the nature of the materials used.

#### Task:

As a chemistry student: help Mr. Okello to

- a) Category of the materials proposed to him
- b) Properties of the materials used and other use.
- c) Explain the dangers associated with the product on the environment.

### ITEM 2

A group of S.1 students during their Chemistry lesson in science lab were given a sample of some elements. Among the elements given include Iron and Copper metal. However, the students got puzzled about the environmental challenge that can rise from the elements.

#### Task:

- a) Guide the students on the category of the elements above.
- b) State the properties of one of the elements and its daily use
- C) Sensitize the students on the environmental challenge associated with the use of the elements.

### ITEM 3

During evening hours, Maria was sent to bath while heading to the bathroom, Maria accidentally poured sand into her water and became dirt. Maria became upset and started crying. She has come to you for assistance on how she can recover her bathing water.

#### Task:

As a chemistry student, make a write up to help Maria

END

## CHRISTIAN RELIGIOUS EDUCATION

### ITEM 1

Clap your hands for joy, all peoples! Praise God with loud songs!

The Lord, the Most High, is to be feared; he is a great king, ruling over all the world. He gave us victory over the peoples; he made us rule over the nations.

He chose for us the land where we live, the proud possession of his people, whom he loves. God goes up to his throne. There are shouts of joy and the blast of trumpets, as the Lord goes up. Sing praise to God; sing praise to our king! God is king over all the world; praise him with songs! God sits on his sacred throne; he rules over the nations. The rulers of the nations assemble with the people of the God of Abraham. More powerful than all armies is he; he rules supreme. Psalms 47:1-9 [GNB]

#### Task:

- a) How can the worship practices in the Bible text above help Christians to maintain their faith in God.
- b) Explain the nature of God according to African Traditional Religion that is reflected in the Bible text above.

## ITEM 2

In a certain village, lives an extended family which is wealthy and exercising all the values of Christianity. However, a calamity hit this family, and the father died. The mother and the children were sent out of the house, the children dropped out of school, and the close relatives are also abandoning them. The mother is overwhelmed with the problems and is thinking of committing suicide.

### Task:

- a) Explain the Christian worship practices that can help the family in the scenario to remain committed to God.
- b) How can you advise the family in the scenario above to overcome their situation?

END

## ENGLISH LANGUAGE

### SECTION A: COMPREHENSION

#### 1. Read the passage below and answer the questions that follow.

Amina lived with her grandmother in a small village at the edge of the town. Her parents worked in the city and only visited during holidays. Although she missed them dearly, Amina had grown used to her grandmother's gentle care and wise stories.

Every evening, after supper, they would sit under the mango tree. Her grandmother would tell stories about her childhood, the struggles she faced, and the lessons she learned. Amina listened attentively, often asking questions and laughing at the funny parts.

One day, Amina received a letter from her parents informing her that they would not visit that holiday due to work commitments. She felt deeply hurt and spent the whole afternoon in silence. Her grandmother noticed her sadness but did not force her to speak.

Later that evening, her grandmother prepared Amina's favorite meal and sat beside her quietly. After a while, she gently said, "Family is not only about those who are far away but also those who stand by you every day." These words comforted Amina, and she slowly opened up about her feelings.

From that day, Amina began to appreciate her grandmother more. She helped with chores, listened more carefully, and even started writing letters to her parents regularly. Though distance separated them, Amina realized that love in a family could still remain strong.

### Questions

a) Suggest a suitable title for the passage

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b).She gently said,"Family is not only about those who are far away".[ Change the sentence into reported speech]

c).By observing one's actions or what they do one can determine one's character.What can you say about the character of Amina

(,d).The way we feel about people is built by what they do .Referring to the passage above, describe your feelings towards Amina.

e)From people's actions and ways, writers pass on moral instructions to the readers.What moral lessons do you learn from Amina..

f) Give the meaning of the following words as used in the passage:

i) *Attentively*

---

ii) *Comforted*

## SECTION B: FUNCTIONAL WRITING

2. Your school is planning an educational trip to another district, but the administration needs more information about the place before making arrangements.

You have been asked by your teacher to write to a friend in the selected district to collect information about:

- Accommodation facilities
- Security
- Places of educational interest
- Transport access

Write to this friend requesting this information.

**END**

# ENTREPRENEURSHIP

## ITEM 1

In **2024**, the growing demand for maize and millet flour in **Kisenyi, Kampala City**, encouraged many young people to establish cereal milling businesses. Among them was **Juliana Namusoke**, who started **JUNA Grain Millers**, a small enterprise that processes maize, millet, sorghum, and cassava into flour for households, schools, and retail shops.

Over the past five years, the business has continued to operate despite stiff competition from several modern milling enterprises in the area. Juliana arrives at the factory before her employees every morning to monitor production, ensure machines are operating properly, and allocate daily duties. She regularly communicates with customers to obtain feedback about product quality and delivery, while reviewing weekly production and sales targets with her workers to improve performance.

As a result of her commitment and effective management practices, the business has built a good reputation, attracted loyal customers, and steadily increased its sales.

As an Entrepreneurship student, you have been invited to analyse the business practices that have contributed to the success of JUNA Grain Millers.

### Tasks

- a) Using evidence from the scenario, assess the entrepreneurial attributes demonstrated by Juliana that have contributed to the success of her business.
- b) Explain the benefits that Juliana is likely to enjoy as a result of owning and operating her business successfully.

## ITEM 2

In **2025**, many young people in **Kiboga District** established small bakery businesses to meet the increasing demand for bread, cakes, cookies, and doughnuts in their communities. One of them was **Noel Ssemwanga**, who opened **Noel Bakery** in a rural trading centre. The bakery initially attracted customers because there were few competitors in the area.

As the business expanded, Noel began making poor business decisions. He frequently supplied bakery products to friends on credit without keeping proper records or following up on payments. He also used business money to finance his personal leisure activities instead of reinvesting it in the enterprise. Since he believed he could remember all business transactions, he did not maintain accounting records or monitor stock levels.

After some time, the bakery started experiencing serious challenges. Sales declined, bread and other perishable products remained unsold until they expired, shelves became empty because of inadequate stock, and many customers shifted to competing bakeries in nearby trading centres. Noel is now concerned that if no action is taken, the business may close permanently.

As an Entrepreneurship student, you have been invited to help Noel analyse the situation and recommend appropriate solutions.

### TASKS

- a) Using evidence from the scenario, analyse the factors that could have contributed to the current challenges faced by Noel Bakery.
- b) Recommend practical measures that Noel should adopt to revive and improve the performance of his bakery.

### ITEM 3

In **2026**, the demand for beauty and personal care products increased in many towns across Uganda due to the growing number of salons, cosmetic shops, and supermarkets. **Donald Kato** established **DK Cosmetics Distributors**, a wholesale business based in **Jinja City**, supplying lotions, perfumes, hair products, and body creams to retailers in different districts.

Donald uses a delivery van to transport cosmetic products to his customers. Most customers pay for the goods in cash immediately after delivery, and Donald keeps the money in the vehicle until he returns to the business premises. Since the business does not have an online ordering system or digital payment platform, customers can only buy products when they physically meet the delivery vehicle. Some potential customers have complained that they fail to access the products because they do not know the vehicle's location or delivery schedule.

As competition from other cosmetic distributors continues to increase, Donald is worried about the safety of his business and the loss of potential customers. He has approached you, as an Entrepreneurship student, to advise him.

### TASKS

- a) Using evidence from the scenario, analyse the risks that Donald's business is likely to face if it continues operating in the same way.
- b) Recommend how Donald can integrate appropriate technologies into his business operations to improve customer service, increase sales, and reduce business risks.

END

# GEOGRAPHY

## ITEM ONE

A team of officers from the Ministry of Finance and Economic Development (MoFED) was sent to Asukuru village to supervise and coordinate the success of the Parish Development Model (PDM) programme in the area. The team identified different features in the area which were physical and human.

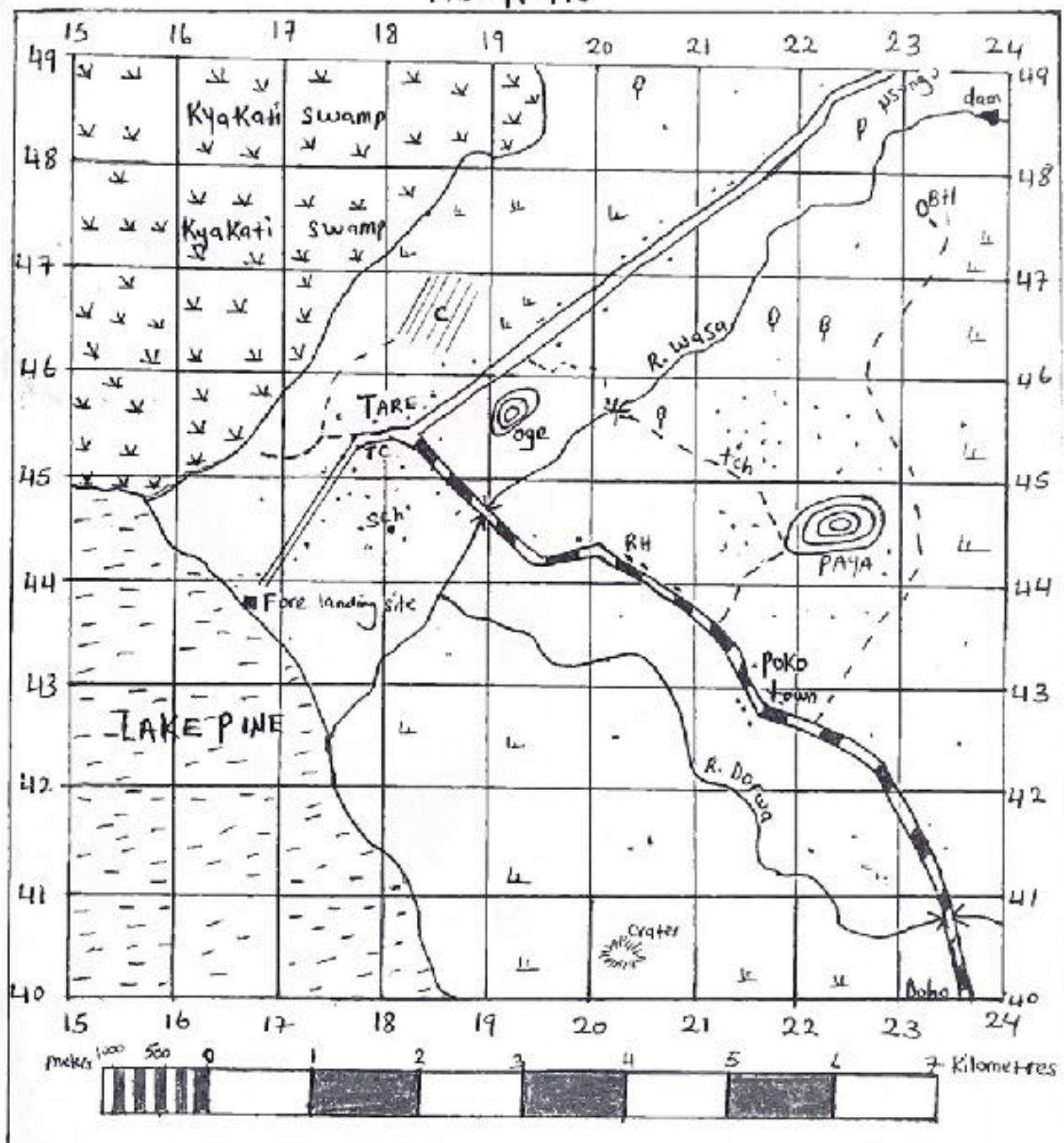
The team recruited you to join them and help them to survey the area and supervise the programme. You have been provided with a map of **Asukuru** in **figure 1** to assist in your findings.

Tasks;

- (a) Identify the six-figure grid reference of the Dam in the North East of Asukuru.
- (b) Identify the feature found at grid reference 2041.
- (c) Suppose you are to travel by a boda-boda along a loose surface road from **Doho** up to the **road junction at Tare** to meet your teammates. And the rider is to charge you **Ugshs. 3000** for each kilometer travelled.
  - (i) Determine the distance you will travel in kilometers.
  - (ii) Calculate the transport fee you will pay at the point of destination.
- (d) Help the team to determine the area covered by Lake Pine in  $\text{KM}^2$
- (e) Identify any three physical and human features in Asukuru.

## FIGURE 1

# ASUKURU



Scale: 1 : 50,000

|                  |                     |                               |
|------------------|---------------------|-------------------------------|
| /// - Plantation | RH. - Resthouse     | == - Dry weather Road         |
| pp - Woodland    | Sch - School.       | - - - - - loose Surface Road. |
| ± - Scrub        | OBH - bore hole.    |                               |
| tch - church.    | X - Culvert         |                               |
| ::: - huts       | Tc - Trading Centre |                               |

## ITEM TWO

Nakitembe is a beautiful village in Nakaseke district with a variety of physical features such as hills, swamps, a forest with a number of bio-diversity and a stream of water. The village has fertile soils which support crop farming. The District Natural Resources Committee and District Forest officer made a worrying report concerning the environment in the area.

The forest is cut down for charcoal, the hill is quarried for marrum used in road construction, swamps have been turned into a rice farm, wild animals are hunted for game meat and a washing bay has been established along the stream, the youth are engaged in brick making and an investor has proposed to set up a coffee factory in the area.

In one of the meetings organized by the local chairman of the village, you were requested to join the environmental committee to use your geography knowledge to aid in reducing the negative effects of the above human activities on the environment.



## TASK

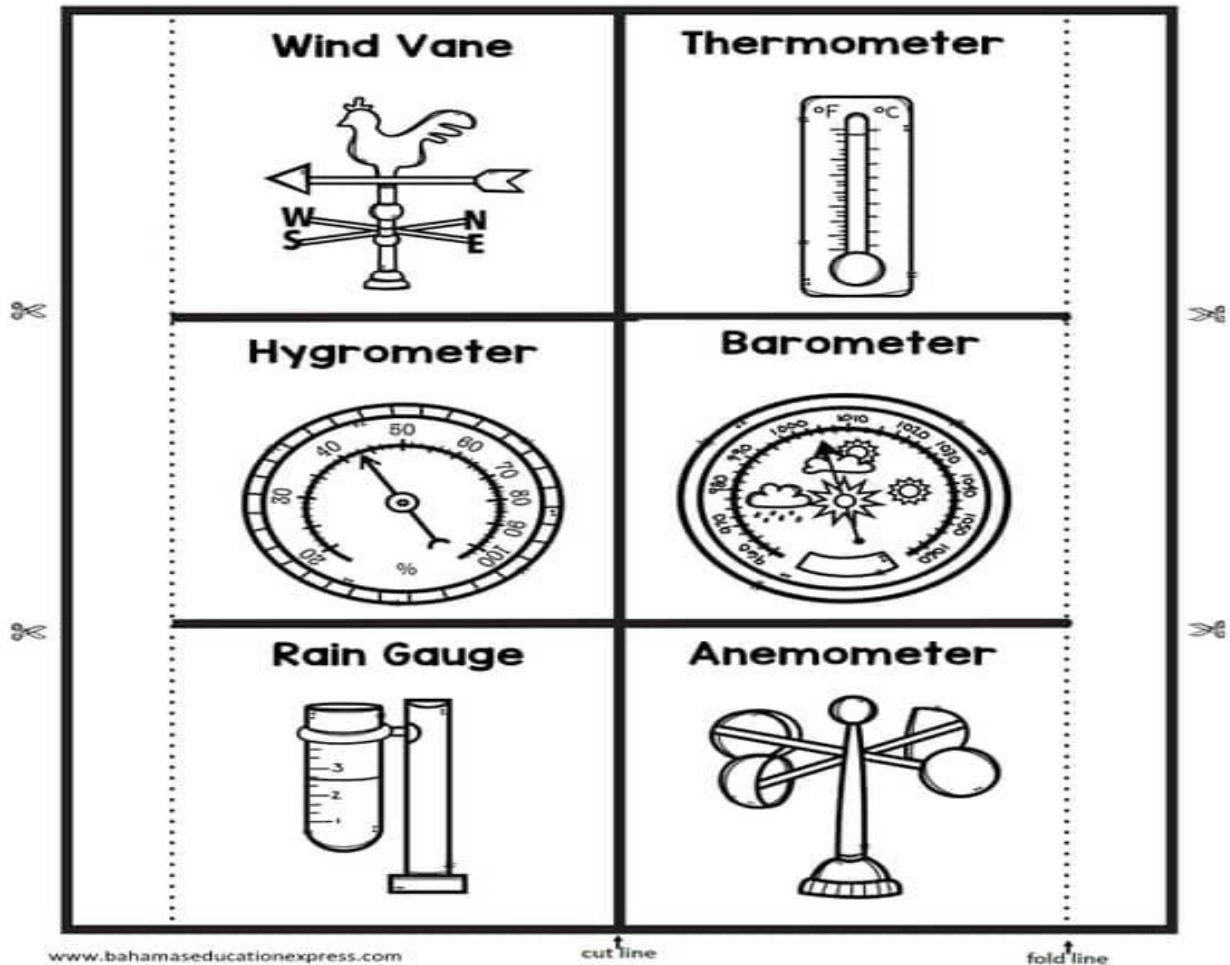
- (a) Explain the worrying effects of human activities to the physical environment in the area.
- (b) Suggest measures to control environmental degradation in the village above.

## ITEM THREE

Students from one of the schools in Wakiso district visited Entebbe International Airport meteorological station which is the head of Uganda National Meteorological Authority

(UNMA) and at this station, they observed various weather instruments used to measure and record the different elements of weather.

You have been given a job as a tour guide at the station and you have been tasked to guide and help to achieve the objectives of the field trip.



## TASK

- (a) Explain the differences between weather and climate.
- (b) Identify any four elements of weather that are measured and recorded at the station
- (c) Choose any one weather element and explain how it is measured at weather station.

END

# HISTORY

## Item 1

The elders of Luwero District narrated to community members that during the bush war that brought NRM government to power in 1986, some Ugandans fled to neighbouring countries for refuge. Some of these people died in exile without showing children their relatives. One of the elders told these children to use written records in order to find about their relatives. Unfortunately, they do not know other sources they can use to find out their relatives.

### Task

As a student of history, write an essay explaining,

- a) Other sources the children can use to find out their relatives.
- b) The advantages and disadvantages of written records.

## Item 2

A group of students have been given an assignment by their history teacher to research about the different historical sites in Uganda and explain generally why they have been preserved and to also explain the various problems faced by these sites. Unfortunately, many students could not get the needed information from the available sources in school. You have been approached by these students requesting you to discuss for them so that they can get ideas to present to their history teacher.

### Task

- a) Write an essay, explaining the reasons why historical sites are preserved?
- b) Write an essay, explaining the problems faced by historical sites?

## Item 3

Many Ugandans have continued to migrate to other parts of the world such as Europe, America, Iran, UAE among others because of various reasons. This has raised an alarm among Ugandans that has attracted the attention of the Ugandan government and it is seeking for possible solutions to stop this migration.

## Task

Write an essay,

- a) Explaining reasons why many Ugandans move to such countries?
- b) Advising the Ugandan government on ways how it can stop the situation?

*END*

# INFORMATION AND COMMUNICATIONS TECHNOLOGY

## ITEM 1

**Nkuntu Memorial College** had a recent change in School administration to improve academic performance and the overall public image of the school being a traditional school. In the head teacher's first meeting with all staff members and parents, various concerns were brought to his attention.

Among those were issues like; inability to track absenteeism among staff members and students, difficulties in presentations of learning content in class rooms by teachers, challenge of addressing large number of learners during school assembly, *and* mysterious disappearance of school properties without trace.

The ICT departmental members proposed to the head teacher to adopt the use of ICTs to address most of these problems. The head teacher however, expressed ignorance of the ICTs the school needs and how to keep them in good working conditions all the time. He has approached you for guidance.

**Task** Prepare a *write-up* to guide the headteacher on the appropriate ICTs to choose and advise him on the measures to be put in place to maintain these ICTs.

END

# ISLAMIC RELIGIOUS EDUCATION

## ITEM ONE

At Green Valley Secondary School, the Muslim Students' Association organized a week of community service. Some learners collected money to support needy families, others woke up early for dawn prayers, while a group encouraged fellow students to fast during Ramadan. One of the teachers also shared his experience of travelling to Makkah, and a new Muslim learner publicly declared his faith before the school community. A few students wondered why Muslims observed all these different practices and what they had in common.

## Task

- a) Explain the Islamic practices demonstrated in the scenario above.
- b) Suggest ways schools can help Muslim learners observe these practices while promoting harmony with learners of other faiths.

## ITEM TWO

During an Islamic seminar, the Imam explained that Muslims should believe in Allah, His angels, His revealed books, His messengers, the Day of Judgment, and His divine decree. After the seminar, some learners discussed how these beliefs influence their daily lives and decisions.

Task

- a) Explain the Islamic beliefs discussed during the seminar.
- b) Why are these beliefs important to Muslims today?

## ITEM THREE

In one month, members of a Muslim community attended different functions. Some gathered to celebrate the end of Ramadan, others attended a wedding ceremony, while another family organized a naming ceremony for their newborn baby. A group of learners observed that each event strengthened relationships within the community.

Task

- a) Identify the Islamic ceremonies reflected in the scenario above.
- b) Explain the significance of these ceremonies to Muslims today.

END

## LUGHA YA KISWAHILI

1. Soma habari hii chini na ujibu maswali yatakayofuata

Jina langu ni Nadawula Deborah mwanafunzi wa kidato cha kwanza mkondo wa katikati katika shule ya upili ya our lady of Africa, mukono. Mimi msichana wa miaka kumi na tano, mrefu na mrembo pia. Ninatoka katika wilaya ya Mityana katika kijiji Bupadengo. Familia yangu inaishi katika kijiji hiki.

Hapo, baba yangu alijenga nyumba kubwa sana na inapendeza sana. Nyumbani tunaishi watu kama nyanya, babu, baba, mama shangazi wangu mmoja, kaka zangu wawili na dada yangu mdogo. Tunapokuwa nyumbani, baba na mama wanatupenda sana lakini mimi wananipenda kuliko wale wengine.

Baba yangu ni daktari lakini akiwa nyumbani huwa anaenda kulima shambani, anachunga wanyama kama ngombe na mbuzi, anaendesha gari kutupeleka kwa duka, na tukitaka pesa za shule, analipa bila shaka. Kwake mama yangu, yeye anatufundisha kupika chakula, kulima, pamoja na njia za kupakulia wageni chakula kwa kupiga magoti.

Tunapokuwa nyumbani sisi kama watoto huwa tunacheza katika ua la nyumba ya baba, tunachunga wanyama, tunaenda kuleta kuni, huku kaka zangu wakikamua ngombe, wakifyeka ua, wakichota maji na kufanya kazi nyinginezo ndogo ndogo.

Katika wiki, nyanya na babu huwa tunakaa pamoja kwa jumamosi na watuhadithia hadithi nzuri sana, wanafutundisha kuwa na tabia nzuri kama vile kusalamia watu kila wakati. Wanatufundisha kutumia salamu kama vile shikamool, habari za asubuhi?, habari za kazi? Habari za nyumbani? Habari za siku nyingi na nyingine.

Nyumbani kunapendeza sana na mimi huwa sitaki kutoka nyumba kuja kwa shule kwa sababu ya upendo wa watu wa nyumbani. Nikiwa shule moyo wangu huwa unaniambia kurudi nyumbani niwaone watu watu wa ukoo wangu.

Maswali;

- a) Andika jina la mwandishi na shule yake.

(alama02)

.....  
.....  
.....

- b) Taja watu 6 wa nyumbani katika habari hii.

(alama03)

- c) Andika kazi 3 za baba wa mwandishi kutoka kwa habari hii.

(alama03)

- d) Taja salamu 4 kutoka kwa habari hii

(alama02)

2. Nyumbani kuna watu watu wengi na unawapenda. Unapenda sana baba yako sana kuliko wengine. Andika insha nzuri kuhusu baba yako.

[alama10]

3. Taja wanyama wawili(2) wa nyumbani

[alama02]

4. Andika umuhimu wa ng'ombe kwa nyumba ya baba yako (hoja 3)

[alama03]

5. Andika mahali muhimu mawili(2) katika jamii yako

[alama02]

6. Chora dira na uweke majina 4 ya sehemu zake

[alama04]

7. Andika namba hizi kwa maneno ya Kiswahili

[alama03]

2%

.....

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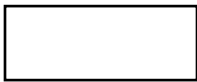
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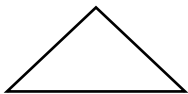
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8. Andika majina ya maumbo haya kwa Kiswahili

[alama02]



.....



.....

9. Andika sentensi kwa wingi

[alama02]

Mtoto Analia sana

.....  
Gari langu ni zuri  
.....

10. Tafsiri kwa Kiswahili maneno haya

(alama02)

Love  
.....

Sleep  
.....

*-mwisho-*

## MATHEMATICS

### Item 1

Kato is a motorcycle courier based in Mukono Town. One morning, he receives two urgent packages. He starts his journey from the Mukono Post Office (Point M).

First, Kato travels 14 km on a bearing of  $045^\circ$  to reach a clinic in Nakifuma (Point N). After delivering the first package, he immediately travels 10 km from the clinic on a bearing of  $135^\circ$  to reach a school in Naggalama (Point G) to deliver the second package.

After the second delivery, Kato needs to return directly to the Mukono Post Office to sign out for the day. He needs to determine the shortest distance back and the exact direction to follow to avoid getting lost in the forest sections.

TASK;

- a) Using a scale of 1 cm to represent 2 km, construct an accurate scale drawing to show Kato's complete journey from Mukono Post Office (M) to Naggalama School (G).
- b) From your scale drawing, determine:
  - (i) The direct distance Kato will travel from Naggalama (G) back to Mukono (M).
  - (ii) The bearing Kato should follow to return directly from Naggalama (G) to Mukono (M).

### Item 2

Namono, a youth leader in Mukono District, is supervising the construction of a new rectangular community netball court. To ensure the court is accurately marked out, she is using a coordinate grid to locate the corner pegs. She has successfully fixed three corner pegs but is unable to determine the position of the fourth corner needed to complete the rectangular court. She seeks your help to finish the layout.

You are a Mathematics student assisting Namono in accurately completing the layout of the netball court.

Namono has identified the coordinates of three corner pegs but is unable to locate the fourth corner that will complete the rectangle.

| Corner Peg | Coordinate |
|------------|------------|
| A          | (2, 2)     |
| B          | (10, 2)    |
| C          | (10, 6)    |

Task;

Using a scale of **1 cm to represent 1 unit** on both the x-axis and y-axis, on a Cartesian plane, plot the given corner pegs, complete the rectangular netball court by plotting the fourth corner peg, and state the coordinates of the fourth corner, **D**.

### Item 3

In a resettlement area in Masaka District, three health centres A, B, and C need a shared high-pressure water pump. The district engineer insists that for the plumbing system to maintain equal pressure to all three centres, the pump must be located at a point that is exactly the same distance from each of the three health centres.

The district surveyor provides the following layout details:

- The distance from AB is 10 km.
- The distance from AC is 8 km.
- The angle formed at A between the paths AB and AC is exactly  $60^\circ$ .

The planning committee requires an accurate technical drawing to determine where the pump will be built and the length of the main pipe needed for each centre.

Tasks;

- a) Using a scale of **1 cm to represent 1 km**, construct the triangle representing the positions of health centres A, B, and C.
- b) Construct the circle that passes through all three health centres A, B and C
- c) Measure the radius of this circle on your drawing and calculate the actual length of the main water pipe (in kilometers) required to connect the pump at from the centre to A

### Item 4

Buvuma Fishing Cooperative and Koome Island Traders transport fish products to Jinja Pier for distribution. Each cooperative records its package quantities using a different number system. Buvuma Fishing Cooperative uses the **base-five** number system, while Koome Island Traders uses the **base-eight** number system.

The cooperatives transport their goods using two supply boats that operate at different departure intervals. While preparing a supply report, the logistics officer at Jinja Pier is

unable to determine when the boats will next depart together or compare the quantities supplied by the two cooperatives. The officer asks for your help.

You are a Logistics Assistant at Jinja Pier.

The logistics officer needs to determine the next time the two boats will depart together and identify which cooperative supplied more packages.

| Trader Group               | Package Count        | Supply Boat | Departure Interval |
|----------------------------|----------------------|-------------|--------------------|
| Buvuma Fishing Cooperative | 143 <sub>five</sub>  | Boat X      | Every 12 days      |
| Koome Island Traders       | 104 <sub>eight</sub> | Boat Y      | Every 18 days      |

Task;

- Convert the package counts to the decimal (base-ten) system and determine which cooperative supplied the larger number of packages.
- After how many days will the two boats depart together again?

END

## PHYSICAL EDUCATION

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### ITEM 1

During the annual school athletics competition, a student insisted on participating in the 5,000-metre race despite skipping breakfast and drinking very little water throughout the morning. The weather was extremely hot, and after crossing the finish line, the student became dizzy, looked pale, collapsed to the ground, and was unresponsive. The sports teacher and first aid team quickly attended to the student while waiting for further medical assistance.

Task

- Explain the likely causes of the above injury (8 marks)
- How did the sports teacher and first aid team manage the injury? ( 7 marks)

### ITEM 2

Your school is organizing for interclass competitions which are to held immediately after examinations. It has invested in money and brought coaches for different sports activities but unfortunately the turn up of students for training is very low. The games teacher Mr. John asked students why they do not go for training and most students said that they fear getting injuries. Others mostly girls claimed that the body changes they are experiencing mostly do not favour them and therefore they fear joining sports.

As a Physical Education student, use your knowledge to answer the following questions.

### Task

- a) Using the scenario above, explain the safety precautions that should be observed in order to prevent injuries. [10 marks]
- b) How do we call the stage where girls and boys experience body changes? [ 2 marks]
- c) What are some of the body changes that both girls and boys go through during puberty? [ 8 marks]
- d) How do these changes affect the performance in sports? [5 marks]

### Item 3

Physical Education (PE) is a compulsory subject for all Senior One students. However, some learners believe that PE is only meant for athletes and that it has little value in education. During the class meeting, the PE teacher invites you as a student of PE to help others understand more.

### Task

- a) Explain to the students the importance of physical education. 10 marks
- b) What are some of the career opportunities that PE students can get after completing the course? 5 marks.
- c) What is the difference between sports and games? 10 marks

END

## PHYSICS

### Item 1

A marine engineering company on Lake Victoria is testing a newly built ship and a submarine before allowing them to transport passengers and carry out underwater inspections. One of the passengers, Boaz said that the ship is so heavy that it cannot float on water; however, the engineer replied that ships can float on water despite being made of steel, which left Boaz confused.

On taking measurements, it was found out that the submarine has a mass of  $3.4 \times 10^6 \text{ kg}$  and when its ballast tanks are filled, its volume is  $3.2 \times 10^3 \text{ m}^3$ . You have been given an opportunity to determine whether the submarine will float or sink in water and give an explanation for your decision.

**Hint:** The density of lake water is  $1000 \text{ kg/m}^3$ .

**Task:** As a learner of physics,

- a) Make an explanation to Boaz to clear his confusion.
- b) i) Determine whether the submarine will float or sink in water.

ii) Give an explanation for your choice in i) above.

c) Identify any three other applications of the knowledge of density in real life.

## Item 2

At a secondary school in Uganda, the SI class moved around the compound in three groups and made different observations.

One of the learners in GROUP A opened a bottle of perfume in one corner of the classroom. Within a few minutes, learners seated far away began to smell the perfume even though no one had carried it around.

Learners in GROUP B went to a nearby pond where they carefully placed a clean sewing needle on the surface of still water using a piece of tissue paper. The needle floated even though it is made of metal. However, when a drop of liquid soap was added to the water, the needle sunk.

Learners in GROUP C saw engineers using a damp proof course when building the foundation of a class room block as shown in the figure below.



The teacher asked the learners to relate these observations to everyday life and explain the science behind them.

### Task:

- Explain the observations made by the students in the three groups.
- Suggest any four ways how SI students apply physics in everyday life.

### Item 3

Uganda's National Science Centre organizes a Space Exploration Week for secondary school learners. During the event, students visit a space simulation center, where they observe how astronauts prepare for missions to the Moon.

One of the demonstrations features an astronaut trainee with a mass of 75 kg. The instructor compares the trainee's weight on planet earth, where the gravitational field strength is 10 N/kg, with his weight on the planet moon, where the gravitational field strength is 1.6 N/kg. The instructor asks the students to determine the trainee's weight on planet earth and on planet moon and to explain why the weight of the astronaut changes for the two planets. One of the students observed that the tyres of some cars at the centre had become smoother and thinner in size and had lost treads but wanted an explanation for such an observation.

**Task:** As the instructed student;

- a) Determine the weight of the astronaut trainee on the two planets
- b) Explain why the weight for the two planets is different.
- c) Identify any three real life applications of the force of gravity.
- d) i) Why did the car tyres at the centre become smoother and thinner with time?  
ii) Why are tyre treads important on cars?

**END**