

S.5 AGRICULTURE PAPER ONE (P515/1)

TEST II 2025

TIME: 2 HOURS

INSTRUCTIONS:

- Attempt three (3) items only

Item One

Mr. Opendo is one of the poultry farmers in Zombo Parish. He started rearing different birds in 2020 to earn a living. One day he visited a friend in Bamunanika in Luwero and observed how the birds are being kept. His friend told him to concentrate with rearing of only one type i.e. either broilers or layers. In 2021, Mr. Opendo decided to rear layers for egg production and within a period of 6 months most of the birds started producing eggs which made him happy. A boy from the nearby village was employed to collect the eggs on a daily basis so that he can earn a living. One day the boy asked Mr. Opendo how the birds manage to produce an egg per day and scratched his head.

Task

Assume that the boy from the nearby village possesses the same question, how can you help him so that when the boy meets his friends' boasts around with content.

Item two

In Uganda most of the farmers start up different projects where they can earn a living. Mr. Kasoro rears cows & bulls over 50mX100m on a zero grazing system. Each cow produces 18 liters of milk and can easily pay school fees and buy basic needs. In 2015 one of the cows produced two (2) calves, a male and a female. The male (bull) calf was not growing at the same rate with the female (cow). When the veterinary doctor visited his farm, Mr. Kasoro was told to ensure that the male cow also grows at the same rate for effective output. As the Vet doctor was leaving his farm, observed bigger scot rum, horns on the males.

Task

What advises can you give to Mr. Kasoro so that he can get the best from his male (bulls) and how he can apply it on his farm?

Item three

Miss Afoyochan is a florist in Katabi village along Entebbe road. She bought 2 acres of land and established on a green house. One day she visited the air port to see how goods are imported and exported. She met an Indian at the airport stranded where to buy flowers since he was preparing for his daughter's wedding, good enough; she had started up the same project. She was given a contract of 1 year to produce and supply flowers of different colours due to the higher demand; she was given a contract of producing white rose flowers, pink rose flowers and red rose flowers within the same production cycle.

Task

What advise can you give to Miss Afoyochan to ensure that white flowers, pink flowers and red flowers are produced with in the same production cycle to meet the demands of the Indian Man?

Item four

The agriculture sector is one of the most improving in Uganda,however,in some parts there are several challenges of low market, drought, crop and livestock parasites, high taxation on the inputs e.g. fertilizers, herbicides and tillage implements. In 2015 Mr. kasoto one day had people encroaching his land yet he has been having the land for the last 30 years, most the neighbors complain about the poor roads to the market especially when it rains

Task

Make a write up how the village members can be helped so that the sector meets their expectations

******END******

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Item 2

Miss kisakye is a single mother with 2 children, Paul and Aisha. She has been struggling with the children especially with their health issue. She went to the nearby clinic and bought a bottle canting solution X and Y for his children as directed by the clinical officer

Task

Carry out investigations on solution X and Y and advise the lady the suitable solution for the proper growth of the children

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HOLIDAY WORK
SENOIR FIVE
ART AND DESIGN PAPER 1
ART HISTORY AND STUDIO TECHNOLOGY- THEORY
1 HOUR 40 MINUTES

INSTRUCTION TO CANDIDATES:

- This paper consists of **two** sections; **A** and **B**. It has **two** examination items.
- Answer **two** examination items in all.
- **All** answers **must** be written in the answer booklet(s) provided.

SECTION A. ART HISTORY

ITEM 1

In Greece, there are many cultures with different forms of art which have been produced overtime from a variety of materials and tools. Such art work can be observed below.



FIG A

Our young generations are missing such information and the cultures of the Ancient Greek Art.

TASK

As a student of art and design and you have studied about History of Art, make a write up explaining facts to the young generation who do not know about such art work.

Inform them about the materials, techniques, subject matter and the characteristics of such art work in figure A.

SECTION B. STUDIO TECHNOLOGY

ITEM 2

A new student in our class missed a lesson of three dimensional art works. She is now looking for someone who can explain the qualities of the art work below.



FIG B

TASK

As an art student, make a write up to assist the new student with;

- a) Well explained ways of preparing the material for making the art work above.
- b) Well explained techniques of making the art works above.
- c) Well explained techniques of decorating the art works above.

END

HOLIDAY WORK

UGANDA ADVANCED CERTIFICATE OF EDUCATION

S.5 ART AND DESIGN PAPER 2

ART MAKING – PRACTICAL

TIME: 4 HOURS

INSTRUCTIONS TO CANDIDATES:

- This paper has one compulsory examination item.
- This paper will be done in two sections;
 - (I) Planning Session (1 hour -Morning)
 - (II) Production section (3 hours – Afternoon)

Bulky materials such as cement, clay, stone, hard wood or materials which may lose the intended shapes and forms should be avoided.

Avoid using materials that may easily decompose in the process of transportation from the school to the marking centers and back.

Read the scenario provided and then answer according using the appropriate materials and tools to generate a suitable artwork/form

Note:

Your product /work may be generated from any discipline of Art and Design for as long as it is in the direction of the scenario given.

SCENARIO

Next month 20th September 2025, there will be a visitation day at our school. So the art teacher is planning to have an art exhibition on that day. The teacher is saying that we are not having enough art pieces to display on that very day.

TASK

The teacher has requested every art student to make one art piece that can be used on that occasion.

END

Name.....combination.....

Kyaddondo Senior Secondary School

S.5 HOLIDAY WORK

2 hours 45 minutes

Instructions

- Answers should be written in the spaces provided.
- All items in section A and B are compulsory.
- Drawings should be made using a sharp pencil.

Section A

Item 1

A senior five student was eager to know more about differences that exist between structure and functions of different cells of organisms. So the student observed slides of mesophyll cell and bacterial cell using electron microscope. He noticed that membranous organelles such as chloroplasts, mitochondria, Golgi body, rough endoplasmic reticulum and sap vacuoles were present in only the mesophyll cell and was puzzled to observe cells and wondered whether there are existing differences in such structures found in both mesophyll and bacterial cells. As a student who has studied cell biology, help this senior five fellow student to;

Task

(a) Identify the biological processes likely to be carried out in mesophyll cell in relation to the organelles present. (Hint: state the process and the organelle responsible) (05 scores)

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(b).Identify any differences between components/cellular materials found in both mesophyll cell and bacterial cell. (06 scores)

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Task

(a) Identify these tissues **X**, **Y** and **Z** that were observed by Katongole and his group. (03 scores)

tissues	identity
X	
Y	
Z	

(b) Describe the structure and arrangement of cells in the tissues observed on slides **X** and **Y**

(i) Structure and arrangement of cells in slide **X** (02 scores)

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(ii) Structure and arrangement of cells in slide **Y** (02 scores)

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(c) Make a well labeled drawing of any four units of cells observed in slide **Z**. (03 scores)

Two agriculture students at Kyaddondo Senior Secondary School conducted an experiment on productivity of two different crop plants in their school garden. Due to the high temperatures and high light intensities, the ground nuts were wilting during the day and showed slow growth rates while the maize were thriving well. The students later also discovered that the plants had organelles that trapped sunlight and converted it into chemical energy which was used to make food.

Task

(a) Identify the organelles that were discovered by the students and also state the plant organs where they are found. (02 scores)

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(b) State any five structural adaptations of the organelles to trapping sunlight which is converted into chemical energy used to make food. (05 scores)

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(c) Basing on the above information, explain why groundnuts were wilting yet the maize plants were thriving. (04 scores)

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(d) The students are still puzzled on the conditions favorable for high productivity of the ground nuts. State the conditions that would favor their high productivity. (02 scores)

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(e) Using the conditions in the above scenario, state the category where the maize plants and ground nuts belong. (02 scores)

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Section B
Answers in this section should be written on a fresh page

Item 4

The Fort portal hot spring microbe project, you are a junior scientist at the Uganda Institute of Cellular Research based in Kampala. Your team is investigating a unique microbial community discovered in one of the hot springs near Fortportal. These thrive in extremely high temperatures and are unlike any other known bacteria. The UICR team is particularly interested in the plasma membrane of the new microorganism because it allows the cell to survive in such extreme temperatures.

Using your knowledge of fluid mosaic model of plasma membrane.

Task

(a) Explain what is meant by the term fluid and mosaic in the context of this model. Your explanation should refer to the movement and arrangement of the components within the membrane.

(05 scores)

(b) With the aid of a labeled illustration, describe the fluid mosaic model of the plasma membrane including at least five of its key components including phospholipids, intrinsic proteins and cholesterol.

(10 scores)

(c) Explain any five functions of the plasma membrane in living organisms. (05 scores)

HOLIDAY WORK

S.5 CRE

THE NEW TESTAMENT PRE-GOSPEL PERIOD, THE GOSPEL AND THE EPISTLES TIME ALLOWED: 1 HR 15 MINUTES

Instructions.

- ❖ This paper has got *two* (2) items.
- ❖ Attempt *ALL* items.
- ❖ All items carry equal scores.

Item 1.

Then Peter said to the people, ³² God has raised this very Jesus from death and we are all witnesses to this fact. ³³ He has been raised to the right-hand side of God, his father and has received from him the Holy Spirit as he had promised. What you now see and hear is his gift that has poured out on us. ³⁴ For it was not David who went up into heaven, rather he said: ‘The Lord said to my Lord: sit here at my right ³⁵until I put your enemies as a footstool under your feet.’ ³⁶ ‘All the people of Israel then are to know for sure that this Jesus, whom you crucified is the one that God has made Lord and Messiah!’ ³⁷ When the people heard this this, they were deeply troubled and said to Peter and other the apostles, “What shall we do brothers?”

³⁸ Peter said to them, “Each one of you must turn away from sins and be baptized in the name of Jesus Christ, so that your sins will be forgiven; and you will receive God’s gift, the Holy Spirit. ³⁹For Gods promise was made to you and your children, and to all who are far away – all whom the Lord our God calls to himself.”

⁴⁰ Peter made his appeal to them and with many other words he urged them, saying, “Save yourselves from the punishment coming on this wicked people!” ⁴¹ Many of them believed his message and were baptized, and about 3,000 people were added to the group that day. ⁴² They spent their time in learning from the apostles, taking part in fellowship, and sharing in the fellowship meals and prayers. **(Acts 2:32-42 GNB)**

Tasks.

- a) How can the Christians use the message in the bible text above to prepare for the Parousia?
- b) Examine how religious leaders today relate with their flock that is related with those in the Bible text above.

Item 2.

¹Again Jesus began to teach beside lake Galilee. The crowd that gathered round him was so large that he got into a boat and sat in it. The boat was out in the water and the crowd stood on the shore at the water’s edge. ² He used parables to teach them many things, saying to them: ³ “Listen! Once there was a man who went out to sow corn. ⁴ As he scattered the seed in the field, some of it fell along the path, and the birds came and ate it up. ⁵ some of it fell on rocky ground, where there was little soil. The seeds soon sprouted, because the soil wasn’t deep. ⁶ Then, when the sun came up, it burnt the young plants; and because the roots had not grown deep enough, the plants soon dried up. ⁷ Some of the seeds fell among thorn bushes, which grew up and choked the plants, and they didn’t produce any corn. ⁸ But some seeds fell in good soil, and the plants sprouted, grew, and produced corn: some had thirty grains, others sixty, and others 100.” ⁹ And Jesus concluded, “Listen, then if you have ears!” **(Mark 4:1-9 GNB)**

Tasks.

- a) Discuss the ways in which contemporary Christians act as good soils in reference to the Bible text above.
- b) Explain the ways modern Christians react towards the preaching of religious leaders that differ from those in the biblical text above.

END

HOLIDAY WORK

S.5 ECONOMICS

 **Time: 2 Hours**

INSTRUCTIONS:

- Answer all the four questions in this paper.

ITEM 1

The price of a bunch of matooke has more than doubled in the previous period, but to the surprise of the policy makers at Kajansi Town Council, it has not been possible for the traders to substantially **increase supply** of matooke in the market yet they would wish to benefit from the price increase. You have been approached by the chairman of the local council at Kajansi to explain to the councillors why this situation is as it is.

◆ **Task:**

- a) Explain to the councillors the reasons behind the situation in the scenario.
- b) Advise the town council on what could be done to ensure that more matooke are brought into the market.

ITEM 2

In a survey that was carried out by KACITA, it was found out that quantity demanded of commodity A increased by only **2%** as a result of reducing its price by **20%**. You have been approached by the board of directors to explain to the traders the implications of the trend in the scenario.

◆ **Task:**

- a) Help the members of KACITA to calculate the degree of responsiveness of the quantity demanded of commodity A to changes in its price.

b) Explain to the members of KACITA the possible causes of the trend in the scenario above.

ITEM 3

A parliamentary committee is debating why Uganda's growth lags behind countries like Singapore. Some members urge that **low capital formation** is the main barrier to building industries and infrastructure while others blame corruption and poor governance.

◆ Task:

Make a presentation explaining the role of capital in development and why Uganda struggles to generate enough of it.

Item 4

In Mbarara, there are two milk factories, FreshMoo Ltd and CreamyGold Dairies. After six months, FreshMoo's workers process 1,500 litres of milk every day but CreamyGold's workers process only 900 litres. Each factory has 30 workers.

◆ Task:

a) Help the Managing Director to determine which factory has more productive workers.

b) Suggest possible measures to be taken to improve on the situation of the weak factory.

END

Uganda Advanced Certificate of Education

HOLIDAY WORK

S.5 ENTREPRENEURSHIP EDUCATION

PAPER 1

TIME ALLOWED: 03 HOURS

INSTRUCTIONS TO CANDIDATES

- *This paper consists of **two** sections **A** and **B**.*
- *Answer **four** items only.*
- *Section **A** (item one) is compulsory.*
- *Answer **three** items from section **B**.*
- *All items carry **equal** marks.*
- *Credit **will** be given for use of relevant diagrams and illustrations.*
- *Any additional item(s) answered will **NOT** be marked.*

SECTION A (COMPULSORY)

*Answer **all** parts in this section.*

ITEM ONE

Kasule, after obtaining his bachelor of business studies from Makerere University Business School (MUBS). He identified an idea of starting an agro-processing business idea in processing and packaging of juice. He wrote down this idea in an exercise book, he surveyed the idea using those people who were already in that business and he finally started producing and selling his products.

He installed new modern machinery, equipped employees with new skills in order to ensure quality production.

Kasule has successfully achieved his vision by being able to introduce new product brands, create new business structures through employing skilled workers, electronic marketing has been introduced, charging affordable prices, payment of utilities through mobile money, the business has speedy delivery system using business runs and trucks.

Task

Based on your entrepreneurial knowledge and skills;

- a) Identify the **procedure** used by Kasule to turn his idea into a business opportunity. (05 marks)
- b) How **innovative** is Kasule in the business project? (05 marks)
- c) What **types of change** are implemented by Kasule in his business? (03 marks)
- d) Advise the entrepreneur on;
 - i. **Sources** of innovations in business. (05 marks)
 - ii. **Effects** of innovation in business. (07 marks)

SECTION B

Answer **three** items in this section.

ITEM TWO

The trans-border movement of people, capital and ideas is taking place due to increased economic integration like east African economic integration which enhances trade and investment.

Task

As an expert in entrepreneurship education;

- a) Explain the **determinants** of this movement. (10 marks)
- b) Describe the **characteristics** of entrepreneurial environment. (08 marks)
- c) Guide people in your community on the social and cultural factors that **impact** the entrepreneurial development and decision making process. (07 marks)

ITEM THREE

Tiny, after completion of his certificate in catering from Bukoto vocational training centre, he decided to venture into a bakery project as self-employed person. After 4 months of operation, the bakery starts getting many customers due to quality production.

As a good negotiation, tiny is able to pay attention to his customers, using clear and appropriate words, able to bargain physically and mentally for so long, believe in himself very calm, honest and trustworthy. He is always able to understand customer's point of view, think creatively about a problem without giving up easily in order to be able to retain so many of them.

Task

As a student of entrepreneurship education;

- a) Identify the **qualities** tiny possesses as a good negotiation. (06 marks)
- b) Advise tiny on relevance of effective **negotiations** in entrepreneurship.

(04 marks)

- c) Guide the youths in your community on **reasons** why they preferred self-employment to paid employment. (08 marks)
- d) Using your entrepreneurship skills and knowledge, describe the **principles of negotiation** in entrepreneurship. (07 marks)

ITEM FOUR

In transmission of messages, the sender has to ensure that information is understood by the receiver in the same way and sense as sent.

Task

Based on your entrepreneurial knowledge and skills,

- a) Describe the **principles** that have to be followed to achieve it. (08 marks)
- b) Explain the various **forms** that can be used in the transmission of information. (10 marks)
- c) Advise the business community on **reasons** why effective communication should be ensured. (07 marks)

ITEM FIVE

JALILAH MUTESASIRA, after obtaining her bachelor's degree in accounting and finance from Kyambogo University. She decided to invest her little capital of shs 4,000,000 in a furniture workshop, in order to cope up with change from the entrepreneurial environment as a creative person, she decided to think differently from the competitors, make her own decisions during production and marketing, being open and capable of responding quickly to the environment, so as to be able to transform new ideas into new furniture products to meet the available needs and she always want to do things in a unique.

JALILAH, always put aside quality thinking time to develop new innovative solutions to problems, noting down ideas that comes into her mind, she is able to transfer technology from one field to another, willing to learn at all times, she obtain ideas from more than one source to select the best idea to use. Avoids

negative judgments against ideas from her employees, thinking beyond the visible framework and she is able to recognize assumptions being made in business.

Task

As an expert in entrepreneurship education;

- a) Identify the **characteristics** JALILAH possesses as a creative person in business. (05 marks)
- b) **How** does **creativity** fostered by JALILAH in the business. (05 marks)
- c) Advise her on **circumstances** under which creativity may be promoted. (07 marks)
- d) Using your entrepreneurship knowledge and skills describe the factors that bring about **change** in a business. (08 marks)

ITEM SIX

KASULE ALI, has a passion for creativity, he has a degree in welding and metal fabrication. Before starting operations, he talked to successful tailors, visited trade shows, surfed the internet for more information on welding, read newspapers his survey of the metal fabrication businesses helped him identify product gaps, the magazine articles in his field gave him the idea that there was demand for the machines.

He chose to locate his business in the centre of a busy trading centre in his (Kaberamaido) that is accessible, his initial evaluation forecasted monthly sales at shs 38,000,000, his good mathematics helped him to project the total monthly operating business costs to be at shs 14,000,000 on power, insurance, rent, transport and raw materials, nodding his head in appreciation, his mind could see the project monthly profits.

Task

Based on your entrepreneurial knowledge and skills,

- a) Describe the various **sources** of business ideas that the entrepreneur used. (05 marks)
- b) What **procedures** did Kasule follow when determining the profitability of the business opportunity? (05 marks)
- c) Guide the entrepreneurs on;**
- i. **Reasons** for generating business ideas. (07 marks)
- ii. **Factors** considered when evaluating a business idea. (08 marks)

***** END *****

KYADDONDO SECONDARY SCHOOL

HOLIDAY WORK

S.5 GENERAL PAPER

DURATION: 2 HOURS

INSTRUCTIONS:

- *This paper contains **two** examination items; attempt **one** item.*
- *Be neat.*

Item 1. Your younger 16-year-old sibling has pressured her parents to buy her a smartphone in order to access the latest social media platforms like Snapchat, Instagram, WhatsApp etc. However, she feels the parents are treating her unfairly by not allowing her to access those sites. She has resolved to come to you for help with the parents.

Task:

- a) As a student who has studied about communication, explain to your parents why your sister should be allowed to access these social media platforms.
- b) Why, in your opinion, are the parents against her accessing social media?

Item 2. The Ministry of Education and Sports is considering introducing mother tongue instruction in primary schools, where students would be taught in their native language alongside English. Some stakeholders are debating this approach.

Task:

You have been selected to present the potential benefits and challenges of this approach to the officials from the Ministry. Prepare what to give.

END

Good luck folks!

HOLIDAY WORK

SENIOR FIVE PHYSICAL GEOGRAPHY

TIME 1;30 MINS

INSTRUCTIONS:

- ATTEMPT ALL PARTS OF THIS ITEM

In a Senior Five Geography class, Mr.Obale shows the students a world map and asks them to observe the shapes of the continents. He particularly draws their attention to the way the west coast of Africa appears to "fit" the east coast of South America. He further plays a short video animation showing how continents have slowly moved over millions of years to their current positions.

He then explains that in the early 20th century, a scientist named Alfred Wegener proposed a theory called Continental Drift, suggesting that all continents were once joined together in a supercontinent called Pangea, which later broke apart.

To strengthen their understanding, Mr.Obale shows diagrams illustrating tectonic plates and explains the Theory of Plate Tectonics, which builds on Wegener's idea and provides a mechanism — the movement of the Earth's lithospheric plates. He adds that this movement causes various geological features like earthquakes, volcanoes, and rift valleys.

He asks the students to conduct a group discussion and then answer the following **questions:**

- a. Explain any one theory that was mentioned in the scenario and justify it with any four major pieces of evidence.
- b. Discuss any one landform found at plate boundaries and its importance to humans.

HOLIDAY WORK

S.5 History of Africa

Unit 1

TIME: 2 HRS

INSTRUCTIONS:

- Attempt two questions in all.

Item 1

Initiation ceremonies have been the backbone of the social pillar in the African Traditional settings. Rites like circumcision have transcended generations to the extent that today it's a celebrated rite among the Kikuyu and chagga in Kenya and among the sabiny and Bagisu in Uganda. Despite the criticisms from Human rights groups and the United Nations Organization(s), Africans have upheld them as part of their cultural heritage.

Task

Examine the significance of initiation rites like circumcision among the Communities that cherish them.

Item 2

Imagine you are an African chief in 1884. Shortly after European powers signed the Berlin conference agreements. You receive a message from European representative offering protection in exchange for allowing them to build a trading post and administrator your land.

Task.

What would be the long term implications for your people and culture..

ITEM 3

President Ibrahim Traore of Burkina Faso has awakened the Pan-African spirit on the African continent. He has expelled French, American and Australian investors in the Uranium, gold and oil Industries. This move has made Burkinafaso reclaim its Sovereignty and true meaningful independence. Many Afro-centric scholars have praised him for awakening the real reasons that made Africans rise up against colonialism.

Task

Using your researched historical facts, examine the factors responsible for the rise of African nationalism that resonate with president Ibrahim Traore's vision of making Africa free from colonialism.

END

HOLIDAY WORK

S.5

UNIT 2

HISTORY OF WORLD AFFAIRS SINCE 1789

TIME ALLOWED: 1 HOUR 30 MINUTES

Instructions.

- ❖ This paper has got *two* (2) items.
- ❖ Attempt *ALL* items.
- ❖ All items carry equal scores.

ITEM 1

The 1789 French revolution (1789-1799) was a period of intense social and economic disruptions in France, overturning the ancient regime (old order) and leading to the establishment of a republic. The revolution was fueled by deep seated social inequalities, economic hardship, and enlightenment ideals, climaxing in the storming of the Bastille, execution of the king, and the rise of Napoleon.

Task: Under what circumstance would an event like the one presented in the scenario above be deemed necessary and what measure can you adopt to avert their occurrence.

ITEM 2

Enlightenment philosophers played a crucial role in shaping the intellectual and ideological landscape that led to the French revolution of 1789. Great thinkers like Voltaire, Jean-Jacques Rousseau, Baron de Montesquieu, and Denis Diderot through their writings and ideas challenged the existing social and political order, advocating for concepts like individual rights, popular sovereignty, and the separation of powers. Their works provided the intellectual ammunition for the revolution by questioning the divine rights of kings and the legitimacy of the absolute monarchy.

Task: How far do you agree with the assertion about philosophers in the text above.

END

HOLIDAY WORK

SENIOR FIVE I.R.E P.1

THE GLORIOUS QURAN (IRE)

1hr 30 min

Instructions:

- Attempt only two (2) examination items.
- All items carry equal scores (35 marks).
- Any additional item(s) responded will not be scored.

Item 1

A new convert to Islam is curious about the origin of the Quran. One evening while discussing religious matters with her Muslim friend, she asks, "my colleague, I have always wondered how the Quran was revealed to us?" Her colleague had to take a moment of silence. In her response, the answers were lacking. Then they all decided to go to the computer laboratory to search for possible answers but they were given few responses.

Task.

As a knowledgeable student of Islamic studies, how would you respond to the new convert using clear explanations with references from the Quran itself?

Item 2

Sharif and Jumah are young youths who have just recently converted to Islam. Of recent, they attended an Islamic seminar at IUIU university Kabojja and the main preacher talked about Revelation but he never gave enough details on how Allah's message was delivered to humanity. Sharif and Jumah are asking themselves how Allah's message used to reach mankind.

Task

As an informed student of Islamic studies, how would you help Sharif and Jumah to clearly understand how Allah's message used to reach mankind?

Item 3

Ibn majah together with his colleagues at university were interested at memorizing the holy Quran. Therefore they had to look for online Quranic tutors. Fortunately they were successful though the shiekh tasked them to make research about the Quranic preservation and protection. Ibn majah together with his colleagues tried to do so but it was in vain because they were all below average.

Task

Suppose the tutor referred Ibn majah and all his colleagues to you to explain the divine and human methods of preserving and protecting the holy Quran, what could be your judgment?

WISH YOU THE BEST

HOLIDAY WORK

SENIOR FIVE

ISLAMIC RELIGIOUS EDUCATION PAPER III

HISTORY OF ISLAM

TOPIC: LIFE OF PROPHET MUHANNAD (PBUH), EARLY LIFE AND PUBLIC CALL

TIME: 1 HOUR AND 30 MINUTES

INSTRUCTIONS

Item i

As a youth, Muhammad (PBUH) led a life which was totally different from the people among whom he was born. He kept away from the bad and immoral behaviours and led an upright and decent life. Indeed he behaved as a real Muslim even before he became a prophet

Task

- a) Basing on the above description, explain prophet Muhammad's (PBUH) exemplary character upto 610AD (15 Marks)
- b) What lessons can Muslims today draw from the prophets' character? (10 marks)

Item ii

When the prophet (PBUH) openly invited the Meccans too join Islam, it brought him hostility together with his followers. Things became worse, especially when he preached against their gods. They declared the prophet (PBUH) a public enemy and the attempted to put an end to his mission

Task

- a) Describe how the Meccans attempted to put an end to prophet Muhammad's mission (15 marks)
- b) What methods can Muslims today apply to escape the oppression inflicted on them by their enemies

END

LET SUCCESS BE YOUR TARGET

HOLIDAY WORK

UGANDA ADVANCED CERTIFICATE OF EDUCATION

APPLIED MATHEMATICS (P425/2)

SENIOR FIVE

Duration. 2Hours

Instructions

Attempt all items

Item 1

At the construction site the engineer was designing the structure of the ceiling of the building. Forces of 7N, 6N, 10N, 13N, and 15N act along the lines BA, BC, DC, DA and AC respectively of the rectangular structure of the ceiling. The directions of the forces are in order of the letter, taking AB and AD as the x and y axes, where $AB = 3a$ and $AD = 4a$.

Task.

Determine the,

- Magnitude of the resultant force.
- The direction of the resultant force acting on the ceiling.

Item 2

The table below represents marks obtained by 100 students in principal mathematics class of S.6 in a certain school. The head of department was tasked by the director of studies to analyze the results of the students.

Marks	20-30	30-40	40-50	50-60	60-70	70-80	80-90
Number of students	5	15	10	10	30	25	5

Task

As a learner of mathematics help the head of department to,

- Construct a histogram and use it to estimate the mode.
- Calculate the,
 - Mean
 - Variance and standard deviation.

Item 3.

The Uganda mathematics society organized the mathematics contest for advanced level students and the students were given a function given by $f(x) = xe^x + 5x - 10$ to solve.

Task

As a learner of mathematics.

- a) Show that the equation $f(x) = 0$ has a root between $x = 1$ and $x = 2$
- b) Use linear interpolation twice to obtain the root of the equation correct to three decimal places

Item 4

In a demonstration of motion under connected particles, the mathematics teacher arranged the system as follows. He placed a body of mass 0.65kg on a smooth horizontal table. He connected a light inextensible string from this body, over a smooth fixed pulley at the edge of the table, to a body of mass 0.05kg hanging freely. With the string taut, he then system was released from rest.

Task.

As a learner of mathematics help the class to determine the,

- (a) the acceleration of the system
- (b) the tension in the string
- (c) the distance moved by the 0.05kg mass in the first 2 seconds of motion.

END

DEPARTMENT OF PHYSICS

HOLIDAY WORK

S.5 PHYSICS P510/1

TIME:

INSTRUCTIONS

Item 1

Scenario

a) A certain business man contracted a team of builders to construct a building. After construction of the first floor, it was realized that the concrete beam at the windows and doors had bent downwards which led to cracking of the concrete.

When the business man asked one of the builders why this happened, the builder told him that it seems the steel bars used were of low young's modulus and hence of low quality, which resulted into more strain when stressed. The business man couldn't understand such terminologies like stress, strain and young's modulus.

The business man then tasked the builder to find out the young's modulus in order to judge the quality of the steel used. There were some steel wires remaining on site.

Task

The builder has approached you as a physics learner to help him on the following.

- i) Explain to the business man the terminologies he couldn't understand.
- ii) Write the steps you would carry out to obtain the quality of steel used.

Hint: *Young's modulus of quality steel is $2.0 \times 10^{11} \text{ Nm}^{-2}$*

- b) Additionally, in order to know how much weight the beam can carry, it was required to test a steel wire as follows;

A steel wire of length **2.0m**, diameter **$1.0 \times 10^{-4} \text{ m}$** was fixed horizontally to two rigid supports, one at either end. A certain weight was hung at the mid-point of the wire which made the wire to sag downwards by **0.1m**.

Task

Help the builder to know the weight used. Use young's modulus in (a)

Item 2

Scenario

On a high-way, a traffic officer suspected an approaching car to be over speeding as it was passing a speed-limit sign post which was **200m** from the officer.

The officer immediately signaled to stop the car and the driver applied the brakes. Unfortunately, it had rained and the car could not stop before reaching the officer.

The car collided with another similar identical stationary car near the officer and the two cars stuck together and came to rest after some distance.

Through the investigations carried out by the officer, the following information was noted.

- The mass of the car was **1000kg**
- The coefficient of friction on the ground during when the cars were stuck was **0.2**
- The distance moved by the cars after collision was **5.0m**
- The time taken by the car from the sign post up to reaching the stationary car was **20 seconds**.
- The speed-limit indicated on the sign post was **30km/h**
- The driver was being charged with over speeding but he claims he was not over speeding.

Task

As a physics learner of A-level, help the officer to confirm to the driver his charges, by following the steps below;

- a) Determine the friction force which brought the cars to rest after collision.
- b) Determine the deceleration of the cars after collision.
- c) Determine the initial common velocity of the cars.
- d) Determine the velocity of the car just before collision.
- e) Determine the speed of the car when passing the sign post and use it to judge the driver

Item 3

- a) The government is promoting 4science education, so that it gets innovators who will be able to advise on how to make use of natural resources to provide energy especially;

- i) Running water of rivers
- ii) High speed winds
- iii) The sun

Task

You have been selected to provide a write up on how each of the above three resources can be made to provide energy. Please do so.

- b) In the ministry of works a truck is required which can deliver construction materials from the source to the road site.

The choice of the truck should be *energy-saving type* to avoid wastage of funds. A truck which saves energy is the one which can climb a hill of angle 30° with a steady velocity of at least 10m/s when the coefficient of friction on the road is 0.25

The ministry has approached a truck company to purchase the truck. The company has trucks of engine power 80kW and mass 800kg , but the ministry is not sure if this truck satisfies their preferences.

Task

As a physics learner use the information above to test for the ministry whether the truck from this company can be compliant with their preferences or not.

HOLIDAY WORK
S5 PHYSICS PRACTICAL
P510/2

Duration: 2hrs: 45mins

Instructions

- **Attempt one item only**

Item 1

During project work, a group of s6 researches decided to develop an instrument that can be used to detect oil reservoirs in the underground. One of these friends told the rest that they can construct a geophone which uses spring of constant between 22Nm^{-1} and 65Nm^{-1} together with a mass loaded to it. However the group couldn't agree on the constant of the spring which was available to them and approached you for the help.

Task;

Using experimental means, find the force constant of the spring and hence give a recommendation to the group that has approached you. By experimentation, what is the effective mass of the spring provided?

Item 2

The S.5 students are doing projects this term. One group is planning to make lenses. The information they got from their research says in order to make a lens you have to use a glass of known specification of refractive index according to the lens purpose. This group want to find out whether the available broken glasses in form of blocks can be of use in their making of desired lenses but they don't know

how to accurately obtain their refractive index but it's believed to be between **1.45** and **1.69**.

TASK;

As a knowledgeable physics student, guide this group through the scientific investigation of refractive index of glass and accordingly advise them about their project.

HOLIDAY WORK
S5 PHYSICS PRACTICAL
P510/2

Duration: 2hrs: 45mins

Instructions

- **Attempt one item only**

Item 1

During project work, a group of s6 researches decided to develop an instrument that can be used to detect oil reservoirs in the underground. One of these friends told the rest that they can construct a geophone which uses spring of constant between 22Nm^{-1} and 65Nm^{-1} together with a mass loaded to it. However the group couldn't agree on the constant of the spring which was available to them and approached you for the help.

Task;

Using experimental means, find the force constant of the spring and hence give a recommendation to the group that has approached you. By experimentation, what is the effective mass of the spring provided?

Item 2

The S.5 students are doing projects this term. One group is planning to make lenses. The information they got from their research says in order to make a lens you have to use a glass of known specification of refractive index according to the lens purpose. This group want to find out whether the available broken glasses in form of blocks can be of use in their making of desired lenses but they don't know

how to accurately obtain their refractive index but it's believed to be between **1.45** and **1.69**.

TASK;

As a knowledgeable physics student, guide this group through the scientific investigation of refractive index of glass and accordingly advise them about their project.

HOLIDAY WORK

S.5 SUBSIDIARY MATHEMATICS ASSESSMENT

TIME: 2 HOURS

INSTRUCTIONS:

- Attempt all items.

Item 1

A certain company deals in spare parts, making profits from selling units of the spare parts.

The company's profit can be modeled as:

$$P(x) = -2x^2 + 40x - 120$$

Last year, the company did not make any profit, and this year, the director of the company is planning to intensify the marketing. In the process, they want to know:

- ✓ The number of units of spare parts sold in the previous year where they made no profit.
- ✓ The number of units that should be sold to maximize the profit.
- ✓ The maximum possible profit that can be made.

Task:

As a learner of mathematics, address the concerns of the director of the company.

Item 2

Musa is a field sales manager in a certain agricultural produce business. He visited four markets in a certain week.

In Market A, he bought 3 bags of beans, 5 bags of maize, 10 bags of potatoes, and 3 bags of millet.

In Market B, he bought 1 bag of beans, 4 bags of potatoes, and 2 bags of millet.

In Market C, he bought 5 bags of beans and 1 bag of maize.

In Market D, he bought 4 bags of beans, 3 bags of maize, 6 bags of potatoes, and 1 bag of millet.

Purchase prices:

Beans = shs 45,000 per bag

Maize = shs 30,000 per bag

Potatoes = shs 15,000 per bag

Millet = shs 50,000 per bag

Selling prices:

Beans = shs 50,000 per bag

Maize = shs 25,000 per bag

Potatoes = shs 18,000 per bag

Millet = shs 55,000 per bag

At the end of the week, Musa presented shs 200,000 as the profit made that week. The boss is furious, claiming Musa might have made more profit than declared and wants to fire him. The board has contacted you for clarification.

Task:

As a mathematician, determine whether the board should change Musa from the job or not.

Item 3

According to recent records, the weights (in kg) of 50 students in a school are as follows:

Weight (kg)	Frequency
30 – 34	2
35 – 39	5
40 – 44	5
45 – 49	9
50 – 54	7
55 – 59	6
60 – 64	4
65 – 69	2

In an attempt to improve the school diet, a nutritionist needs an Ogive to analyze weight data, plus the mean weight and the median weight. The welfare teacher responsible to provide this information is sick and unable to help.

Task:

Perform the duties of the welfare teacher.

END