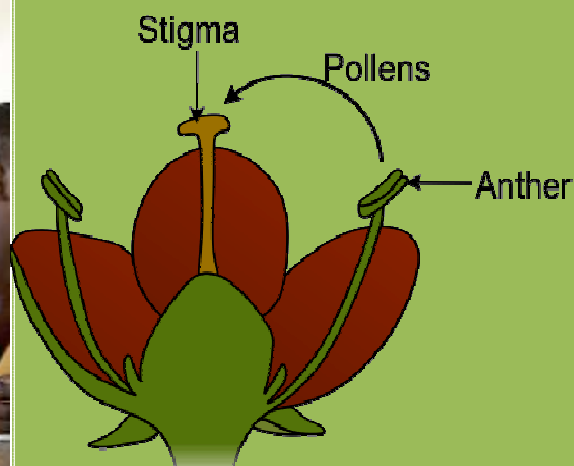


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KOLFRAM

NATIONAL MOCK CHAMPIONSHIP EXAMINATION MARKING GUIDE



INTEGRATED SCIENCE

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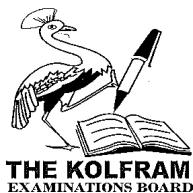
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KOLFRAM EDUCATIONAL SERVICES KAMPALA

NATIONAL PRIMARY LEAVING MOCK EXAMINATION

2023

INTEGRATED SCIENCE(Marking Guide)



Time allowed: 2 hours 15 minutes

Index Number:

Random Number						Personal Number		

Candidate's Name:

Candidate's Signature:

School ID:

District ID:

DO NOT OPEN THIS BOOKLET UNLESS YOU ARE TOLD TO DO SO

Read and follow these instructions carefully:

1. Do not write your **school** or **District name** anywhere on this paper.
2. This paper has **two** sections: **A** and **B**. Section **A** has **40** questions and section **B** has **10** questions. The paper has **12** printed pages.
3. Answer all questions. All answers to both sections A and B must be shown in the spaces provided.
4. All answers must be written using a blue or black ball point pen or ink. Any answer written in pencils other than on graphs and diagrams will not be marked.
5. No calculators or electronic pens are allowed in the examination room.
6. Unnecessary changes in your work and handwriting that cannot easily be read may lead to loss of marks.
7. Do not fill anything in the table indicated: **"FOR EXAMINERS' USE ONLY"** and boxes inside the question paper.

FOR EXAMINER'S USE ONLY

QN. NUMBER	MARKS	EXAMINER'S INITIAL
1 - 10		
11 - 20		
21 - 30		
31 - 40		
41 - 43		
44 - 46		
47 - 49		
50 - 52		
53- 55		
TOTAL		

SECTION A

(Questions 1 to 40 carry one mark each)

1. State **one** use of sandy soils in our environment.

For making glasses, used in construction of houses, for making papers
Rejects *for farming*

2. Give **one** practice in a home that would help in the control of diarrhoea.

Proper disposal of faeces, proper cooking of food, covering cooked food properly, washing hands after using toilets, proper disposal of rubbish

3. Why is it important to brush our teeth after every meal?

It removes food remains which attract bacteria which destroy our teeth. Rejects it removes bad smell. No one eats food that smells bad

4. Name the form of energy which changes ice to water.

Heat energy
Rejects *fire, heater, electrical energy*

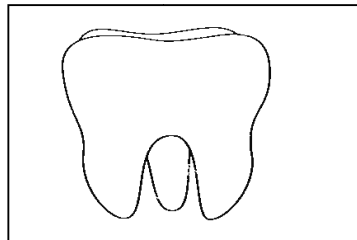
5. How does a sweater help keep a P7 candidate warm during cold days?

Sweater helps to control heat lost during cold days, maintains body temperature/ it avoids direct contact between cold environment and the body
Rejects: *it covers the body/ it's thick/ it is heavy.*

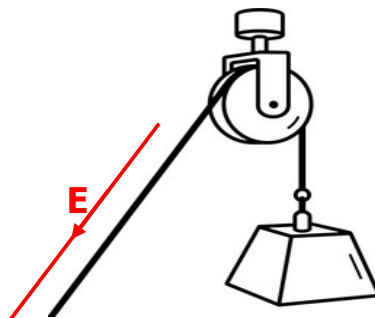
6. In what way are aphids dangerous to a crop farmer?

Aphids destroy farmers' crops, control of aphids causes expenses to crop farmers, they reduce the farmers' crop yield, lowers the quality of crop produce. Rejects: they destroy farmers, they are common in the garden.

7. In the space provided below, draw the external structure of a molar tooth.



8. On the diagram of a simple machine shown below, use arrows to indicate the direction of force using letter **E**.



9. Why is calcium an important element in our diet?

Calcium helps to make the bones strong/ it strengthens the bones.

10. What causes malaria?

Plasmodia germs

***Rejects:** Anopheles mosquitoes (they only transmit from one person to another)*

Plasmodium** is a singular word for **plasmodia

11. Which blood cell is responsible for preventing germs from entering the body after an injury?

White blood cells

***Rejects:** White ants, white yams, red blood cells, plasma, platelets*

12. Why does sound move slowest in gases?

Sounds travel slowest in gas because there is no medium of transmitting sound waves

a. Sound travels by means of sound waves.

b. For sound to travel there must be a medium.

c. Sound needs a medium to transmit sound waves from the source to the destination.

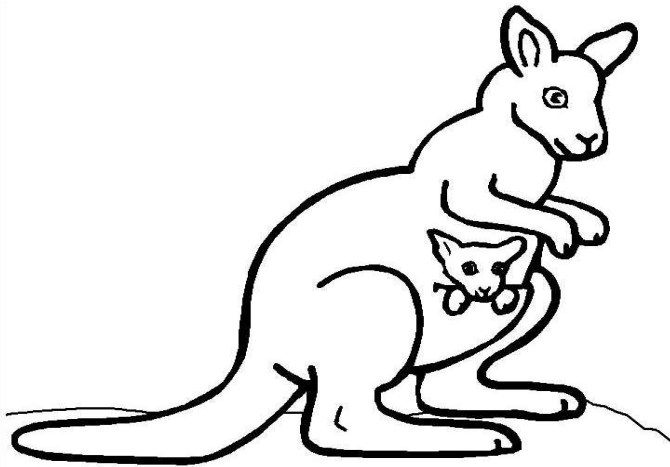
d. A medium should be a state of matter such as solids, liquids and gases.

e. Sound doesn't travel through a vacuum because it does not have molecules /air/matter

A vacuum is a space without matter.

Sound travels fastest in solids, faster in liquids and fast in gases.

The diagram below is of a mammal. Use it to answer questions 13 and 14.



13. State the main reason why the above mammal is grouped under marsupials.

The above mammal has a pouched pocket/a pouch for keeping its young ones

14. State any **one** common characteristic of the mammalian group named above.

They have pouches at their abdomen, have long legs, all have backbones, and give birth to young ones alive, they have mammary

*The word **marsupial** means a pouch or a bag*

A kangaroo can leap or jump a great distance from one point to another.

Examples of pouched mammals

Kangaroo, Koala bear, wallabies, opossums

Characteristics of pouched mammals

1. They carry their young ones in pouch
2. They have strong hind legs for leaping
3. They give birth to young ones
4. They are also called primitive animals.

15. Why is it advisable to keep toe and finger nails short?

It reduces the chance of contracting pathogens/ disease causing germs.

Rejects: for food, sources of money to people, makes us smart

16. How does an onion obtain food when the leaves have dried up?

Onion stores food in its fleshy leaves

Rejects: Onion stores food in its **freshy** leaves, it obtain food in the market

17. What is the main value of ventilation on a house?

It lets our warm air/ it allows air circulation in the house

Rejects: for breathing, for seeing, to stop snakes from entering the house

18. What do you understand by drug dependency?

Drug dependency is the condition in which a body becomes addicted to drugs for its normal functioning./ a condition which results from a prolonged use of a drug.

Drugs of dependency are drugs which cause addiction in case of prolonged use.

Effects of drug dependence or drug abuse to an individual.

- It can cause self-neglect or lack of caring for oneself in terms of personal hygiene.
- It can lead to health problems like damaging body organs like heart, brain, lungs, stomach etc.
- You can be expelled from school.
- A working person can be sent away from the job.
- It can lead to early death through accident or early natural death due to damage to body organs.

Effects of drug dependence or drug abuse to the family.

It can lead to family neglect like failure to provide basic needs.

It can lead to domestic violence

It can lead to poverty in the home because money is spent on buying drugs.

Young children in the home also learn to use the drugs at an early age. It can lead to rape and defilement in the home.

Effects of drug dependence or drug abuse to the community

You can become a public nuisance in the community like fighting and quarrelling with other people.

It can lead to criminal behaviour like stealing people's property, raping women, defiling young girls etc.

Life skills to safe guard against drug dependency

Life skills are behaviours or special abilities that enable us to live safely and effectively with life's challenges.

- a. Self-esteem.
- b. Correct decision making.
- c. Assertiveness
- d. Critical thinking.
- e. Effective communication
- f. Problem solving

19. Mzee Kajubi shares his one roomed – house with his cow, goat, dog and twenty chickens. State **one** problem he is likely to get due to this practice.

Food contamination, competition for oxygen, poor sanitation, outbreak of diseases, injuries will be caused by animals

20. State the main reason why insects are called oviparous creatures.

Insects reproduce by means of laying eggs

Rejects: *Insects have ovipositors, have 3 body divisions, 3 pairs of legs*

21. What is the function of a dry cell in a circuit?

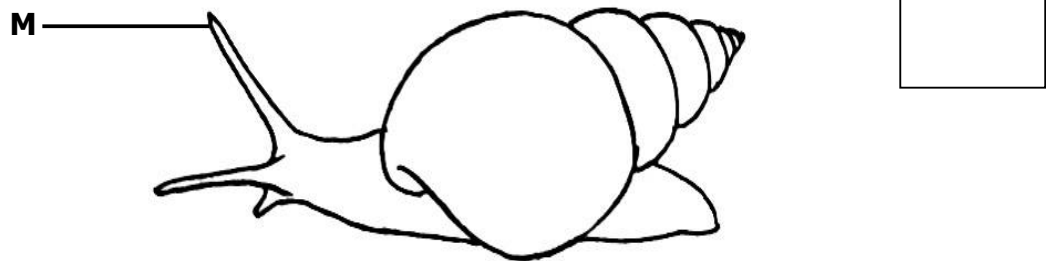
It produces electric current

Rejects : *It produces electricity/ It stores electricity*

22. What is a simple fracture?

Simple fracture is the type of fracture where the bones break and remains inside the skin.

Below is a diagram of a snail. Use it to answer question 23.



23. How useful is the part marked with letter **M** to the organism shown above?

*Part **M** is used for feeling/ sensing change in temperature/ danger*

24. Write down **one** effect of alcoholism to a family.

It leads to family neglects, poverty, it causes domestic violence, and it leads to child abuse.

25. Apart from protection, give **one** function of the human skeleton.

- It gives support to the soft parts of the body.*
- It helps in movement which is caused by the muscles attached to it.*
- It provides surface for attachment of muscles.*
- It contributes to the formation of blood cells*

26. What body system is mostly affected by tuberculosis?

Respiratory system

Rejects: *lungs, Brain, kidney and spines (These are body organs)*

27. State the best way through which school girls can avoid teenage pregnancies.

By abstaining from sex

Rejects: *being faithful to the partner, using condom, avoid moving at night, avoid wrong peers,*

28. State the difference between a fracture and a sprain.

A fracture is a cracked or a broken bone in the body while a sprain is an injury on the ligament/ a torn or overstretched ligament

29. Name the component of soil with the largest proportion.

Dissolved mineral salts

Rejects: organic matters/ living organisms

Components of the soil

Components of soil are things which make up soil. They include:

1. Air
2. Water
3. Rock particles
4. Humus (Organic matter)
5. Organisms like bacteria, earth worms
6. Dissolved mineral salts (inorganic matter)

Importance of components of soil

a) Air

Aeration of soil is the addition of air to the soil by creating more pore spaces

- Air is used during germination
- Air is used by animals in the soil to respiration.
- Enables root perspiration to take place for living organisms in the soil.

NOTE:

Perspiration is the exchange of gases between the body of an organism and the surroundings

b) Water

Soil contains water as well.

Importance of water in the soil

1. Water is used by plants for germination
2. Making starch (it is a raw material for photosynthesis)
3. Promoting decay of matter

c) Rock particles (inorganic materials like: sand, gravels, clay formed by weathering)

- ✓ Provide space for air to occupy
- ✓ They break down into smaller particles to form soil

d) Humus

Humus is a dead decayed plants and animal matter.

Importance of humus found in the soil.

1. It provides plant nutrients to the soil.
2. It improves soil fertility.
3. Humus forms soil texture.
4. Humus absorbs moisture.
5. Humus makes the soil appear dark in colour.

Soil organisms

These are living things which live in the soil.

Types of soil organisms

1. Micro organisms
2. Macro organisms

Micro organisms

These are tiny living organisms which live in the soil.

Examples of micro soil organisms

- ✓ Bacteria
- ✓ Fungi

Macro organisms

These are larger living organisms which live in the soil.

Examples of macro organisms

1. Millipedes
2. Centipedes
3. Earthworms
4. Moles

Examples of animals that live in the soil

Bacteria, moles, porcupines, earth worms and ants

Bacteria like nitrogen fixing bacteria fix nitrogen in the soil and hence improving on soil fertility.

Earthworms

- ✓ Aerate the soil.
- ✓ Softens the soil /plough the soil
- ✓ Add soil fertility by breaking down dead plants and animal remains.

NB: Why do you think earthworms come out of the soil after raining?

- To breathe /take in oxygen.

30. What is meant by a food path?

A food path is the different stage in food production.

Food path

Food path are different stages in food production.

Types of food path

- Village food path
- Town food path
- Earning food path

Village food path:

This is the food path where farmers grow crops for home consumption

Stages of village food path

- Land preparation (clearing the land)
- Planting
- Caring for crops
- Harvesting

Town food path:

This is the food path where farmers grow or produce food for sale.

Stages in town food path

1. Clearing the land
2. Planting
3. Caring for crops
4. Harvesting
5. Drying seeds
6. Marketing
7. Buying and cooking food
8. Eating

Earning food path

This is the food path where people who work and get salary use it to buy food in markets

Stages of earning food path

1. Getting salary
2. Budgeting

3. Buying food

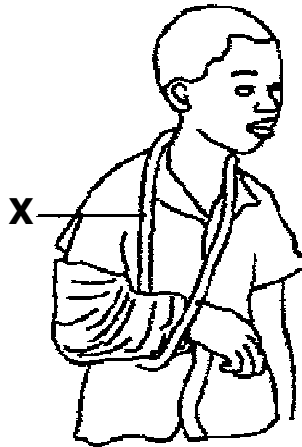
Blocks of food path

Blocks of food path are problems faced in food production and may lead to little yield when harvested.

Examples of blocks of food path

- (a) Crop pests
- (b) Crops diseases
- (c) Poor farming methods
- (d) Poor health
- (e) Weather disasters
- (f) Earth quake

Study the diagram below and use it to answer questions 31 and 32.



31. Name the first aid component marked with letter **X** above.

Arm sling

Rejects: Bandage, armlings/ Harm sling/ Rope/ first aid chain

32. How useful is the first aid component named in (31) above?

It helps to maintain the broken bones in its normal position

Rejects: for tying the arm/ makes causality smart/ for identification

33. Mention **one** example of a natural hazard in the environment.

Soil erosion, earth quakes, drought, flood, hailstones, land slides, mudslides

Rejects: mining, crop harvesting, deforestation, fighting

34. State the value of the smoker to a bee farmer.

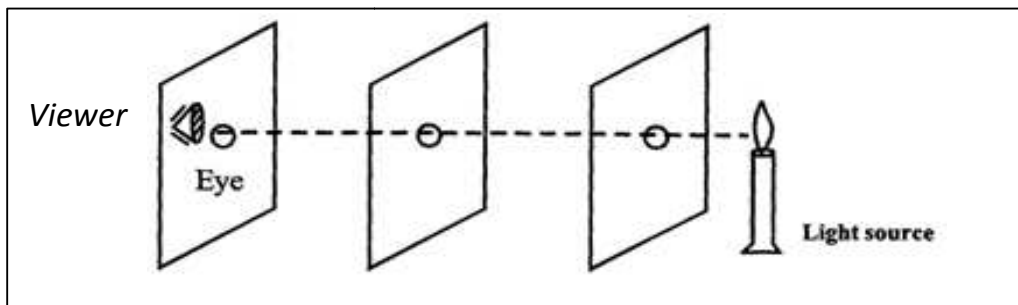
Smoker produces smoke which helps the bee farmer to calm the bees during honey harvesting

35. Why is bottle feeding discouraged in babies?

Milk used in bottle feeding is a source of disease to babies, it does not bond love between baby and its mother.

Rejects: it is expensive,

The experiment below was done by the P7 candidates. Use it to answer question 39.



36. What was the experiment about?

The experiment was about rectilinear propagation of light/ how light travels in a straight line.

Rejects: A person seeing through 3 cards/

37. What do we lose when we fail to live together as members of the same family?

Love, trust, moral lessons, sanitation standards

38. Name any **one** example of plant fibre.

Cotton, hemp, jute, flax, ramie, sisal, silk, bamboo, kenaf

39. In which way is a chameleon similar to a frog?

- *Both a chameleon and a frog are vertebrates, reproduce by laying eggs*
- *Both a chameleon and a frog have fleshy forked tongues*
- *Both have movable eye lids*
- *Both moult to grow new skins and increase in sizes*

Rejects: Chameleon and frog like John Frog are musicians.

Both chameleon and frogs have 4 legs

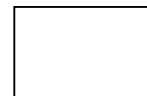
Both chameleon and frogs are all animals

40. Why is the epiglottis important in the human digestive system?

It covers the entrance of larynx so that food and drinks do not enter windpipe and the lungs

SECTION B

(Questions 41 to 55 carry four marks each)



41. (a) How is water in ice form useful to man?

Ice helps in giving first aid, it is used to stimulate the brain, helps in food preservation

Rejects: eaten as food,

(b) Give the method of heat transfer in water.

By convection

(c) Give any **two** states of matter.

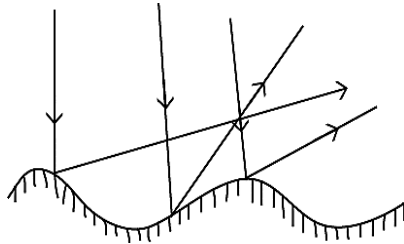
(i) *Solid, liquid, gas.*

(ii) ***Rejects:** solid stage, liquid state, gas state/ states.*

42. (a) What is reflection of light?

Reflection is the bouncing back of light rays when they strike a shining opaque object.

(b) The diagram below shows reflection of light. Study and use it to answer questions below.



(i) What type of reflection is shown above?

Irregular reflection

(ii) Why are the rays reflected as shown in the diagram?

Rays of light are reflected as shown above because they fall on a rough shiny surface.

(iii) Give **one** way in which reflection of light is important to human being.

Reflection helps us in dressing using mirrors, used in the side mirrors of the cars.

43. (a) Write down any **two** classes of food.

(i) *Proteins / carbohydrates, Vitamins, Fats*

(ii) *Go food/ Grow food/ Glow food **rejects** rich people food, poor people food*

(b) Name **two** requirements of a pregnant woman.

(i) *Adequate sleep, enough physical exercises, good nutrition, proper*

(ii) *personal hygiene, appropriate clothing, antenatal care*

44. (a) Give **two** possible causes of worm infection.

(i) *Eating raw food, eating dirty and unwashed fruits, eating contaminated*

(ii) *food, walking barefooted, sharing clothes, beddings with infected persons*

(b) Give **two** possible signs of worm infection in children.

(i) *Diarrhoea, loss of weight, grinding of the teeth, lack of sleep, restlessness*

(ii) *The tongue, gums, eyelids and finger nail become pale.*

45. (a) How does each of the following control soil erosion:

(i) Crop rotation?

Crop rotation allows different roots of crops to hold the soil firmly

(ii) Mulching?

Mulching controls the speed of flowing water which erodes the soil

It avoids direct contact between soil and the rainfall

Note that rain is the amount of water collected from the rainfall. Rainfall is the droplets of melted ice falling.

(b) Give **two** ways of maintaining soil fertility besides (a) (i) and (ii) above.

(i) *By manuring, by practicing bush fallowing, addition of fertilizers,*

(ii) *by terracing, by intercropping, by Afforestation, by terracing*

46. (a) What is an essential drug?

Essential drugs are drugs that meet people's common health problems.

Types of drugs are:

- *Essential drugs.*
- *Narcotic drugs.*
- *Drug of dependence*

Narcotic drugs

Narcotic drugs are drugs which cause addiction after a prolonged use or dependency.

Examples of narcotic drugs

Tobacco, alcohol, marijuana, opium etc

Essential drugs

These are drugs that meet peoples' common health problems.

Examples of essential drugs

Panadol, quinine, chloroquine

Categorizes of essential drugs

- ✓ *Pain killers – for reducing pain.*
- ✓ *Curative drugs – used to cure diseases.*
- ✓ *Preventive drugs commonly vaccines used to prevent diseases*
- ✓ *Contraceptives – mainly used in family planning.*

Qualities/characteristics of essential drugs

- 1. They should be common and affordable.*
- 2. They cure diseases.*
- 3. They have less side effects*
- 4. They should meet people's health problems.*
- 5. They should have value for money.*
- 6. They have an important curative value*
- 7. They are safe if used correctly.*

TYPES OF ESSENTIAL DRUGS

- *Traditional drugs.*
- *Laboratory manufactured drugs.*

(b) Give any **one** example of such a drug.

Traditional drugs are drugs which have existed before the introduction of science and technology to human health

- *Traditional drugs can also be modernized in the laboratories.*

Examples of traditional drugs

- ✓ *Blackjack cures wounds.*
- !! *Bombo' grass for cough*
- !! *'Enkeje' for measles*
- !! *mango leaves,*
- !! *lemon tree,*

// aloe vera,
// eucalyptus leaves for cough

Characteristics of traditional drugs

1. They are mainly used in raw form.
2. They have unknown side effect on human health
3. Their purity and quality normally change.
4. They have no expiry date
5. They are not packed and sealed.

Laboratory manufactured drugs

These are drugs which are made from laboratory.

Examples include:

Cough mixtures, chloroquine, paracetamol, piriton, ORS for rehydration, capsules etc.

These drugs are commonly found in clinics, hospitals and other health units.

(c) Why is an expiry date important in the administration of drugs?

It helps to know the validity of the drugs/ it avoids drug poisoning

Reject: *It gives instruction to use the drugs/ it avoid drug misuse*

(d) State any **one** danger of buying essential drugs from the shops and markets

It results into drug poisoning, it leads to overdose, it causes underdose, one might buy fake drugs, drugs may be contaminated, drugs are not well prescribed,

Rejects: *they are hard to get, it is eaten as food, they make life simple*

Ways drugs are misused

1. Sharing drugs prescribed for one patient.
2. Taking an under dose
3. Taking an overdose.
4. Taking a drug when you are not sick.
5. Taking a drug at a wrong time.

Effects of Drug misuse.

1. Makes germs resistant to the drug. This delays recovery
2. Overdose can lead to poisoning.
3. They cause weaknesses to the body
4. It leads to loss of appetite
5. It causes brain damage.

47. (a) Give any **two** types of cattle kept in Uganda.

(i) *Dairy cattle/ milk cattle. Beef cattle/ meat cattle, dual purpose*

(ii) **Rejects:** *diary cattle, exotic, local cattle*

- ✓ A diary is a personal book for recording daily private events, thoughts and feelings
- ✓ Exotic and local breeds are types of breeds of cattle not type of cattle

(b) Give **two** advantages of zero grazing on a farm.

(i) *1. It enables easy collection of manure. It enables easy collection of manure*

(ii) *2. Controls the spread of pests and disease*

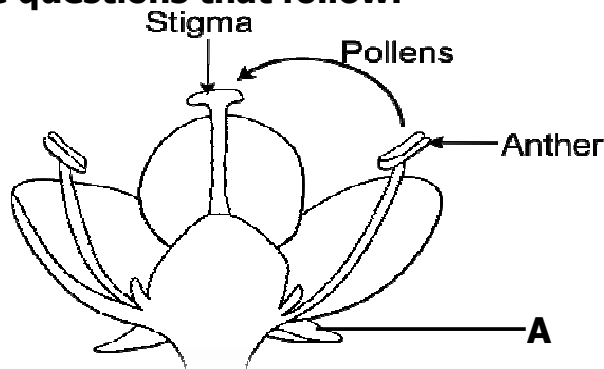
3. A sick animal can easily be identified

4. It protects animal from destroying crops

5. The feeds are not wasted

6. The animals do not move for a long distance and so they produce more meat and milk

48. The diagram below shows the parts of the plant. Study it carefully and answer the questions that follow.



(a) Name the type of pollination above.

Self pollination

(b) Suggest any **one** example of nocturnal flower pollinating agents.

Moth, beetles, bats, ants, some bee species

Rejects: sun birds, bees

(c) Name any **one** plant which carries out the type of pollination shown above.

Beans, maize, paw paws, soya beans, peas

(d) How useful is the part marked with letter **A** to the flowers during early flowering stage?

Part marked with letter A protects the flower buds in the early flowering stage

49. (a) Why is air said to be matter?

Air is said to be matter because it has weight, air occupies spaces. Air has volume

(b) A balloon is blown and hung up for decoration. Give the reason why the balloon bursts after sometime.

A balloon heated and burst due to expansion of air inside it.

(c) Mention **two** properties of air shown when the balloon is blown fully.

(i) *Air occupies spaces. Air can be compressed*

(ii) *Air has weight. Air has volume*

50. A farmer practices mixed farming (intercropping) on his farm with the following crops: Maize, groundnuts, cotton and beans.

(a) Which **two** crops would be advisable for the farmer to plant together?

(i) *Beans and Maize*

(ii) *Maize and groundnuts, cotton and maize*

(b) Give a reason for your answer in (a) above.

The two crops above feed on different nutrients.

- (c) The farmer continued planting the crops for three consecutive years and noticed the yields were dropping. Suggest a reason for the drop in the yields.

The soil had lost nutrients absorbed by the plants.

Rejects: the plants became numerous in the garden

51. (a) Name **two** immunisable infant killer diseases caused by bacteria.

(i) *Tuberculosis, diphtheria, pertussis, tetanus,*

(ii) *Rejects: the plants became numerous in the garden*

- (b) Besides the six infant killer diseases, give **one** other immunisable disease.

Malaria, COVID 19(Corona virus), meningitis, streptococcal pneumonia

- (c) State any **one** importance of a child health card to a mother.

It reminds the mother on the next date of immunization, it helps to monitor the child's health and growth

IMMUNIZATION CARD (C H C) / CHILD HEALTH CARD

This is a card given by health workers at a health centre to every child (baby) who receives immunization

A child health card shows the following information about a baby

1. Date of birth (D.O.B)
2. Date of next visit for immunization
3. Vaccine received and date
4. Birth weight of the child
5. Child's name
6. Parent's name, place of residence, parents occupation.
7. Birth order
8. Doctors' advice to health growth and nutrition of the child.

Importance of immunization cards

- ✓ Helps to remind the parent of the next date of visit for immunization
- ✓ Helps the parent to monitor the child growth
- ✓ Helps both the doctor and the parent to know which vaccine was already given and which one is remaining.

52. (a) In which way is the reproduction in bacteria similar to that of fungi?

Both bacteria and fungi reproduced by mean of cell division

- (b) State any **one** condition necessary for bacteria to multiply.

Absence of chemicals, presence of food, presence of moisture, optimum temperature

Rejects: temperature: very low temperature makes bacteria dormant and very high temperature kills them.

- (c) Name any **one** place where bacteria are commonly found.

Animal bodies, contaminated water, contaminated food, in the soil, in the air, in the rubbish pits, in the decaying matter, in the pit latrines

- (d) Why is it not advisable to pour chemicals in the latrines to kill bacteria?

Chemicals kill useful bacteria which help to decompose faeces in the latrines.

53. (a) How does a banana plant reproduce itself?

By means of suckers

- (b) Name **one** insect pest that commonly attacks bananas in Uganda.

Banana weevils

Rejects: Grasshoppers, termites, any animal

- (c) Which part of the banana plant does the insect above destroy?

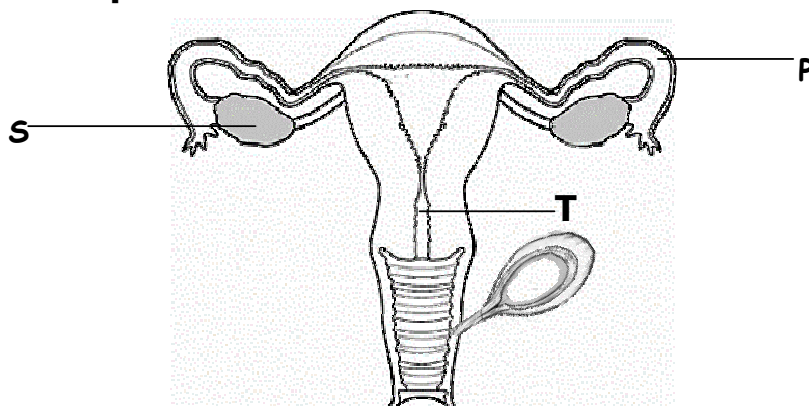
Banana roots

Rejects: Stems, leaves, fruits

- (d) Suggest **one** piece of advice a farmer would use to control the pest mentioned in (b) above.

To spray bananas using pesticides, to transplant bananas from health species, destroy affected banana stems

54. The diagram below shows the female reproductive system, study it and answer the questions that follow.



- (a) Name the part marked with letter **S**.

Oviduct

Rejects vagina/ inside the woman, horn of vagina, wall of vagina

- (b) Where does implantation take place?

In uterus

Rejects in the vagina/ inside the woman

- (c) What type of pregnancy occurs in part marked with letter **P**?

Ectopic pregnancy

Ectopic pregnancy occurs when a fertilized egg implants and grow outside the main cavity of the uterus.

- (d) State **one** disorder that results in the type of pregnancy mentioned in (c) above.

Over smoking, old age pregnancy, Sexually transmitted diseases

Pelvic Inflammatory Disease

55. (a) Mary boiled water for drinking and put it in a freezer. What happened to the volume and mass of the water when the water boiled?

- (i) Volume

The volume of water decreased.

.....
.....
(ii) Mass

The mass of water remained the same.
.....

(b) What happened to the volume and mass when the water froze overnight in a freezer?

(i) Volume

The volume of water increased.
.....

(ii) Mass

The mass of water remained the same.
.....
.....



Get ready for yet another 6 sets of quality pre PLE exams that will set you ready for the final examinations.

We wish you success in the continuous struggles

As we remind you that a winner never quits and a quitter never wins