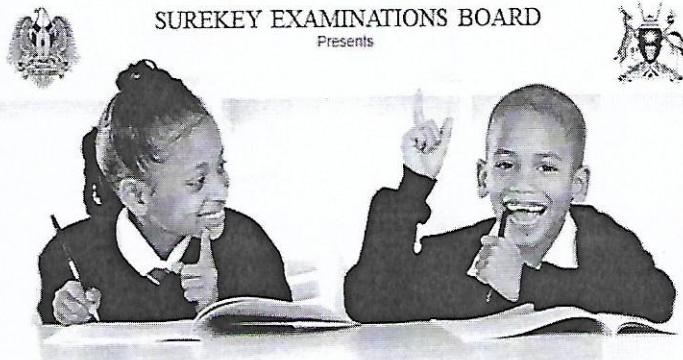
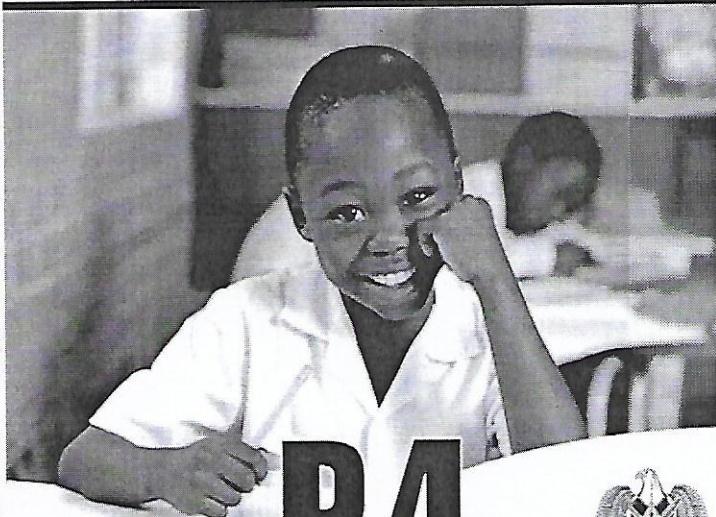




SUREKEY EXAMINATIONS BOARD
PRIMARY SEVEN MOCK OFFICIAL MARKING GUIDE
2023
INTEGRATED SCIENCE
OFFICIAL MARKING GUIDE

PREPARED BY: JAMIE HUMPHREY

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P.4
SUREKEY EXAMINATIONS BOARD
OFFICIAL COMMENCEMENT OF
**LOWER PRIMARY
TRANSITIONAL**
Examinations

2023 October 16th – 19th

Let Quality speak for itself

P.4 LOWER
PRIMARY
TRANSITIONAL
Examinations

30,000/=
Online
Registration
Fee

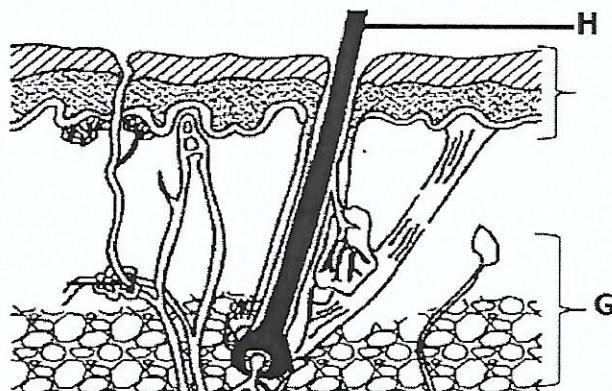
2023 October 16th – 19th

The Surekey Lower Primary Certificate of Education (LPCE) Examination for the 2023 junior candidates will officially start on 16th October 2023.
THEME: "Preparing quality learners for Upper Primary"
Schools interested should register with Surekey Examinations Board before 5th June 2023. Online registration is also available at 20,000/= per junior candidate. For inquiries, contact 0700758668 / 0774088304 / 0755887056

Let Quality Speak for Itself

1. Name the main food value that is not found in distilled water.
✓ Mineral salts (*Reject: Proteins, carbohydrates and vitamins*)
2. Which intestinal worm lives in the rectum of human beings?
✓ Pinworms/threadworms.
Note: *The above nouns are written as one word*
3. State any **one** way in which typhoid affects the digestive system.
✓ Leads to inflammation of the intestines.
✓ Causes improper digestion of food.
✓ Causes diarrhea.
✓ Leads to abdominal pain. (*Reject: Causes death*)
4. Give any **one** example of a bird with sharp curved talons.
✓ Eagle, secretary bird, falcon/ owl/ kite/hawk/buzzard
5. Which type of pit latrine provides manure to crop farmers?
✓ Ecosan toilet

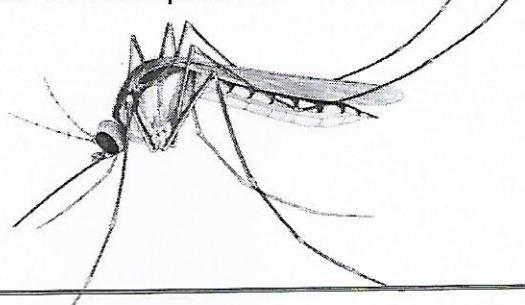
The diagram below shows the human skin. Use it to answer questions **6** and **7**.



6. Name the layer marked **G** on the skin above.
✓ Dermis (*Reject: (Epidermis/ subcutaneous fat.)*)
7. Give the function of part marked **H** to the human skin.
✓ Insulate the body against heat/ keeps the body warm
(Reject: provides warmth to the body)
Note : provision of warmth is only done by a source of heat.
8. Why is it not advisable to use cold water when performing tepid sponging on a patient with high fever?
✓ Cold water closes sweat pores which prevents heat loss from the body.
✓ Lowers the body temperature and causes shivering.
9. Which type of hutch in rabbits is similar to the fold unit system of keeping poultry?
✓ Morant hutch (*Reject morrant hutch*)
10. Why does a butterfly lay its eggs beneath the leaves of the plant?
✓ For protection against harsh weather/ against direct sunshine
✓ To protect eggs from being eaten by predators.
(Reject: For the larva stage to feed on)

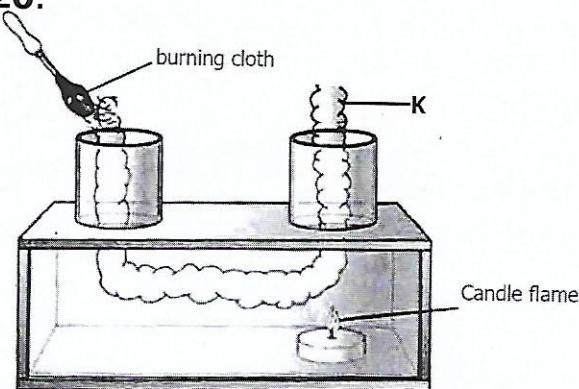
11. How does a dolphin benefit from echoes?
 ✓ **Dodges obstacles while swimming** ✓ **Locates its food/prey**
12. Write down any **one** activity done during land preparation.
 ✓ **Cutting big trees** ✓ **Harrowing**
 ✓ **Ploughing** ✓ **Slashing**
 ✓ **Digging** ✓ **Detrashing**
 ✓ **Controlled bush burning**
(Reject: Planting/pruning/gap filling/harvesting)
13. State any **one** feature of the lungs which makes them suitable for their function.
 ✓ **Has millions of air sacs for gaseous exchange.**
 ✓ **Have a network of blood capillaries for easy diffusion.**
 ✓ **Has moist walls for oxygen to dissolve easily.**
(Reject features without functions/roles)
14. Why are holes found on a queen excluder in a modern bee hive made of very small in size?
 ✓ **To prevent the queen bee from entering in the honey chamber.**
(Reject: To let in light/ to allow free air circulation)
15. State any **one** factor to consider when choosing a variety of tuber crops to grow.
 ✓ **Ability to give high yield.** ✓ **Drought resistance.**
 ✓ **Resistance from diseases.** ✓ **Presence of lateral buds.**
 ✓ **Fast growth.** ✓ **Resistance to pests.**
 ✓ **Good taste.**
Reject: labour/ capital/land/management
16. State any **one** characteristics of coniferous plants.
 ✓ **Conifers are nonflowering plants.**
 ✓ **Store their seeds in cones.**
 ✓ **Reproduce by means of seeds.** ✓ **Grow into tall and large trees.**
 ✓ **Have needle shaped leaves.** ✓ **Produce soft wood.**
 ✓ **Produce male and female cones on the same tree.**
(Reject : have chlorophyll/ make their own food)
Note: all plants have chlorophyll thus all are able to make food
17. Give any **one** way in which people can use nonrenewable resources sparingly.
 ✓ **By using them sparingly** ✓ **By using communal transport**
 ✓ **By walking short distance** ✓ **Using alloys**
 ✓ **Switching off car engines after parking**
 ✓ **Turning off gas cooker** ✓ **Controlled mining**
(Reject : Using them slowly/ carefully)

The diagram shows a type of mosquito. Use it to answer questions **18** and **19**.



18. Which infectious disease is transmitted by the type of mosquito shown above?
 ✓ **Elephantiasis/filaria** (*Reject: Other diseases spread by other mosquitoes*)
19. Give any **one** way of controlling the breeding of the type of mosquito above.
 ✓ **Draining stagnant/still.**
 ✓ **Pouring oil on still water/stagnant.**
 ✓ **Keeping fish in ponds.** ✓ **Allowing amphibians in ponds**
 (Reject : Slashing tall grass/ sleeping under a treated/ using mosquito coils/ spraying mosquito repellent)
20. State the property of light that enables people to see their images in plane mirror.
 ✓ **Light can be reflected/Reflection of light**
21. State any **one** activity done by family members to promote health in the family.
 ✓ **Regular cleaning of toilets** ✓ **Collecting and burning rubbish**
 ✓ **Proper disposal of human wastes**
 ✓ **Draining still water** ✓ **Slashing tall grass**
 ✓ **Practising good food hygiene**
 ✓ **Boiling water for drinking**
22. State any **one** advantage of keeping Zebu cattle over Friesian cattle.
 ✓ **Zebu cattle need less care than Friesian cattle**
 ✓ **Zebu cattle can survive on poor pasture unlike Friesian cattle**
 ✓ **Zebu cattle are more resistant to diseases than Friesian cattle.**
 ✓ **Zebu cattle can withstand harsh weather conditions unlike Friesian cattle.** (*Reject: comparison without noun and responses without comparison*)
23. Mention any **one** form of energy that does not require a medium of transmission.
 ✓ **Light energy //heat energy.**
24. Why should the pit in which a banana sucker is planted be dug big enough?
 ✓ **For proper growth of the suckers.**
 ✓ **To prevent overcrowding of suckers.**
 ✓ **To create a large surface area to trap water for proper growth of sucker.**
 ✓ **To ease expansion and penetration of roots.**

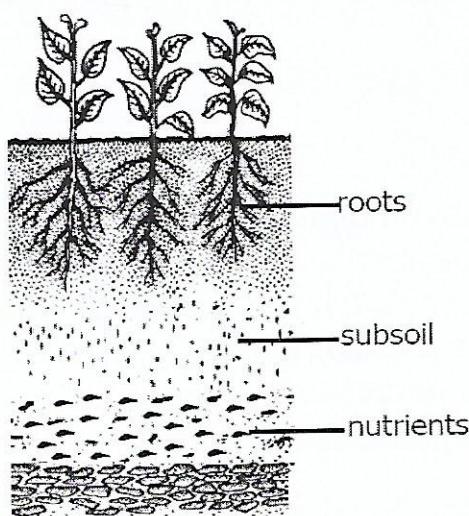
The diagram below shows a wooden box with a piece of cloth burning. Use it to answer questions **25** and **26**.



25. Name the substance marked K.
 ✓ **Smoke** (*Reject air/gas*)

26. Which method of heat transfer is demonstrated by the diagram above?
✓ **Convection**
27. In which way are short bones important to the circulatory system?
✓ **Help in the production of red blood cells.**
28. State any **one** chemical method of controlling bacterial diseases in people.
✓ **Taking antibiotics.** ✓ **Sanitizing hands.**
✓ **Washing hands with clean water and soap.**
✓ **Immunizing children.**
✓ **Sterilizing medical equipment.**
✓ **Using disinfectants and antiseptic.**
(Reject: proper sanitation/ boiling drinking water/ proper personal hygiene.)
29. State any **one** reason why mothers are encouraged to breastfeed their babies for at least two years.
✓ **To boost immunity of their babies.**
✓ **To protect their babies against malnutrition.**
30. Name the essential drug made from penicillium mould.
✓ **Penicillin**
31. Apart from Merino sheep, name any **one** other exotic breed of sheep that is useful to textile industries.
✓ **Romney marsh//Corriedale//Dorset//Cheviot**

The diagram below shows a condition in soil. Use it to answer question **32** and **33**.

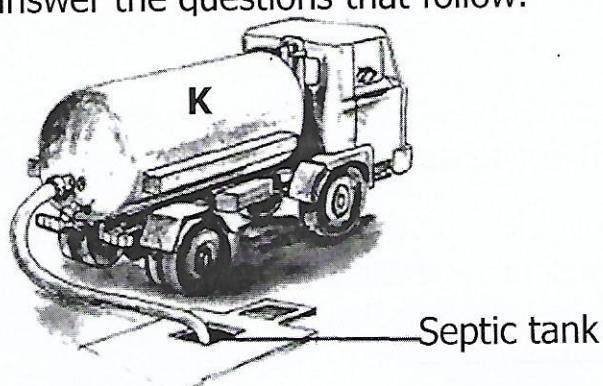


32. Identify the soil condition shown in the diagram above.
✓ **Leaching**
33. How does the condition shown in the diagram above affect soil?
✓ **Causes soil exhaustion/ Causes loss of soil fertility.**
34. Which communicable intestinal disease leads to dehydration?
✓ **Diarrhoea** (Accept severe diarrhoea)
(Reject: cholera/ typhoid /dysentery)

35. Give any **one** example of nitrogenous wastes removed from the body.
 ✓ **Urea/ ammonia/ uric acid/ creatinine**
 (Reject: Excess water/ nitric acid/carbon dioxide/ sweat.)
36. How do nursery children benefit from a seesaw at school?
 ✓ **Used as playing materials.** ✓ **For swinging.**
 ✓ **For physical education lessons.**
37. Give any **one** reason why an onion is grouped under monocotyledonous plants
 ✓ **Has parallel leaf venation.** ✓ **Has fibrous root system.**
 ✓ **Undergoes hypogea germination.**
 ✓ **Bears seeds with one cotyledon.**
38. Apart from polio, mention any **one** other immunisable disease whose vaccine is administered through oral method.
 ✓ **Rota virus diarrhoea// cholera// typhoid**
39. Which part of a cassava plant is affected by the white flies?
 ✓ **Leaf/ leaves** (Reject:root/ root tuber)
40. How does tar affect the human teeth?
 ✓ **Stains teeth.** ✓ **Discolourises teeth.**
 ✓ **Cause bad breath in the mouth(halitosis)**
 ✓ **Causes inflammation of the gum/plaque.**

SECTION B: 60 MARKS

41. a) Name the body organ in the human body that controls the level of;
 i) Salt **kidneys** (Reject skin)
 ii) Sugar **liver** (Reject pancreas)
- b) Give any **two** health habits that maintain the efficiency of the body organs named in a) above.
 ✓ **Having regular physical exercises.**
 ✓ **Feeding on a balanced diet.** ✓ **Avoid smoking.**
 ✓ **Going for immunization.**
 ✓ **Drinking enough boiled water.**
42. The diagram below shows a vehicle commonly found in the community. Study and use it to answer the questions that follow.



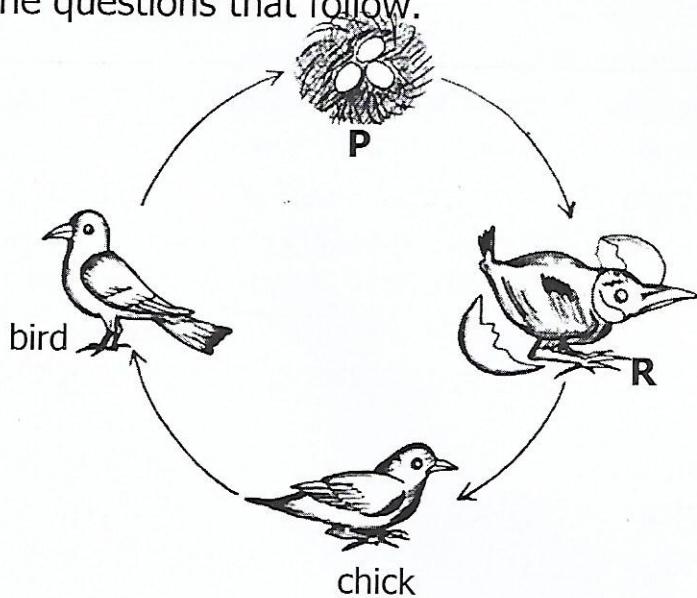
- a) Name the part marked **K** on the vehicle shown in the diagram above.
 ✓ Cesspool emptier (Reject: truck/ vehicle/tank)
- b) Which element of Primary Health Care (P.H.C) is promoted by the vehicle above? **Water and sanitation/ sanitation** (Reject: water alone)
- c) How does the vehicle help to promote the element of Primary Health Care (P.H.C) above?
 ✓ Helps in proper disposal of sewage.
 ✓ Helps in transporting sewage safely to the treatment plants.
 ✓ Helps in emptying septic tanks.
 ✓ Helps in emptying latrines safely when full.
- d) Mention any **one** place where the above vehicle is commonly found.
 ✓ Water treatment plant
 ✓ Sewage plant (Reject: urban areas/ school/ towns/ latrines)
43. A girl in primary five wanted to find the volume of an Irish potato tuber.
- State the method that the girl would use.
 ✓ Displacement method
 - Give a reason for your answer in (a) above.
 ✓ An Irish potato displaces the amount of water equals to its volume.
 (Reject: has no proper shape)
 - Write down any **two** other objects whose volume can be found in the same as that of an Irish potato.
 ✓ Keys // stone// sweet potato// mango// cassava.
44. a) Write down **two** signs and symptoms of sleeping sickness.
 ✓ Persistent fever.
 ✓ Body weakness.
 ✓ Loss of appetite for food.
 ✓ Dullness.
 ✓ Loss of body weight.
 ✓ A person may fail to walk.
- b) Give any **two** ways of controlling the outbreak of sleeping sickness in area. -Spray insecticides to kill adult tsetse flies.
 ✓ Use tsetse fly traps to trap adult tsetse flies.
 ✓ Clear bushes around the homes.
 ✓ Keep away from forests where tsetse flies live.
45. In the table below, part **A** shows practices carried out in farm animals and part **B** has the importance of the practices.

Part A: practices	Part B: importance
Steaming up	Reduces injuries to other animals.
Castration	Increases chances of ovulation.
Flushing up	Controls inbreeding.
Dehorning	Promotes proper foetal growth.

Use the importance in part B of the table to match the practices below.

- a) Steaming up – **promotes proper foetal growth.**
 - b) Castration - **controls inbreeding.**
 - c) Flushing up – **increases chances of ovulation.**
 - d) Dehorning - **reduces injuries to other animals.**
46. a) Write down any **two** examples of venomous snakes.
✓ **Cobra/gabon vipers/black mamba/ puff adder** (Reject: *puff udder*)
- b) Give any **one** way in which snakes are useful to a crop farmer.
✓ **Eat some pests in the garden.** ✓ **Aerate the soil.**
✓ **Their wastes form humus which improves on crop yields.**
- c) In which way are snakes different from other reptiles in body structure?
✓ **Snakes are limbless while other reptiles have limbs.**
✓ **Snakes have no legs while other reptiles have legs.**

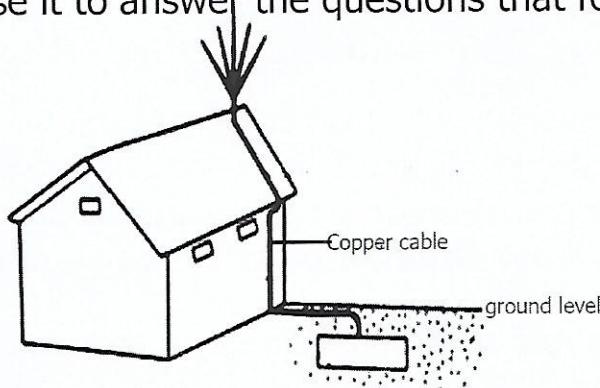
47. The diagram below shows the life cycle of a bird. Study and use it to answer the questions that follow.



- a) Name the process that takes place at part **P** before stage **R** hatches.
✓ **Incubation.** (Reject: Fertilisation/ laying eggs/reproduction)
- b) Identify the type of change shown in the diagram above.
✓ **Biological change**
- c) How does the bird benefit from the biological change shown in the diagram above?
✓ **A bird multiplies/ increases in number/ reproduces.**
- d) State any **one** condition necessary for process marked **R** to take place.
✓ **Optimum temperature.** ✓ **Presence of moisture.**
✓ **Presence of fertilized eggs.**
✓ **Presence of oxygen.**

48. a) Name the basic method of soil formation.
✓ **Weathering of rocks/ weathering of rock particles**
(Reject: Decomposition)
- b) State any **two** factors that lead to the method of soil formation named in a) above.
✓ **Change in temperature** ✓ **Strong wind**
✓ **Movement of ice** ✓ **Animal movement**
✓ **Action of air** ✓ **Action of landslides**
✓ **Quarrying**
- c) Which composition of soil is formed as a result of the method of soil formation named in a) above?
✓ **rock particles** (*reject minerals*)
49. a) Apart from using sacks, state any **two** other ways in which farmers store their crops after harvesting.
✓ **Using a granary.** ✓ **Using food store rooms.**
✓ **Using a silo.** ✓ **Using buckets and pots.**
- b) How can farmers prevent sacks containing stored crops from absorbing moisture on the ground?
✓ **By putting sacks on dry pieces of timber above the ground.**
- c) Give any **one** reason why crop farmers store their crops after harvesting.
✓ **To get planting materials for next season.**
✓ **To have what to sell when market prices are good.**
✓ **To keep food for eating in dry season.**

50. The diagram below shows a structure installed on top of buildings. Study and use it to answer the questions that follow.

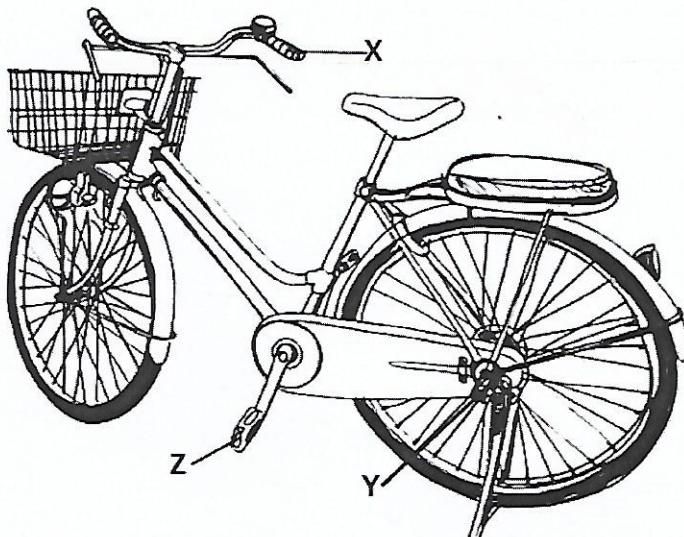


- a) Name the form of electricity that the structure above protects the building against.
✓ **Lightning** (Reject: Static electricity)
- b) How does the structure protect the building against the danger of the form of electricity named in (a) above?
✓ **Provides route for charges to pass into the ground.**
✓ **Traps charges and directs them to the ground.**

- c) State the function of the copper cable on the structure above.
✓ **Provides route for charges to pass into the ground.**
- d) Give any **one** danger of building a house without installing the structure above on it.
✓ **A house can easily be struck by lightning.**
✓ **A house can easily be damaged by lightning.**
51. a) How are the following parts important in the human heart?
✓ Septum- **Prevents oxygenated blood from mixing with deoxygenated blood** (Reject: Separates the left side from the right side)
✓ **Aorta-Transports oxygenated blood from the heart to all body parts.** (Reject: Holds other arteries /It is the main artery.)
- b) Give any **one** way in which the heart is adapted to its function.
✓ **Has thick cardiac muscles for easy pumping of blood at high pressure.**
✓ **Has septum which prevents oxygenated blood from mixing with deoxygenated blood.**
✓ **Has valves that prevent the backflow of blood.**
- c) State any **one** importance of having regular physical exercises to the circulatory system.
✓ **Helps to strengthen cardiac muscles.**
✓ **Helps to improve on blood circulation.**
52. a) At what stage do maize plants develop prop roots?
✓ **Flowering stage/ fruiting stage**
- b) How are prop roots important to the maize plants during the stage above? **Prop roots provide extra support to the plant.**
- c) Give any **two** reasons why prop roots are able to carry out the importance stated in b) above.
✓ **They are many to overcome the weight of the plant.**
✓ **They emerge from different parts of the plant to overcome the weight of the plant.**
✓ **They are well distributed around the stem to increase the plant stability.**
53. a) How does sugar behave when put in liquid tea?
✓ **Dissolves** (Reject disappears in tea)
- b) Give a reason for your answer in (a) above.
✓ **Sugar is soluble in water** (Reject: sugar is a solute)
- c) Mention any **two** other substances in which sugar behaves as stated in (a) above.
✓ **Milk//porridge// juice** (Reject: salt/ glucose)

54. a) Which health condition in human beings results from reduced supply of oxygenated blood to the brain?
✓ **Fainting** (Reject: dizziness)
- b) Write down any **two** factors that can lead to the health condition above in human beings.
✓ **Prolonged hunger**
✓ **Dehydration**
✓ **Prolonged standing in sunshine**
✓ **Receiving shocking news**
✓ **Vigorous physical exercises**
✓ **Alcoholism**
✓ **Severe pain**
- c) How can a casualty with the health condition above be helped to allow the flow of oxygenated blood to the brain?
✓ **By raising the legs slightly above the head.**

55. The diagram below is of a bicycle showing some parts under simple machines. Study and use it to answer the questions that follow.



- a) Name the structures on the bicycle handles marked **X**.
✓ **Grip** (Reject: handle)
- b) State the importance of the structure named in a) above on the bicycle handles.
✓ **Increases friction so as the rider's hands do not slip/slide off.**
- c) How does part marked **Z** simplify work when riding a bicycle?
✓ **Helps the rider to apply force easily while pedaling.**
✓ **(Reject Reduces the effort needed to turn/ride the bicycle)**
- d) State any **one** way of reducing friction in part marked **Y**.
✓ **By oiling.**
✓ **By greasing.**
✓ **Using ball bearing.**
✓ **Lubricating.**

END

