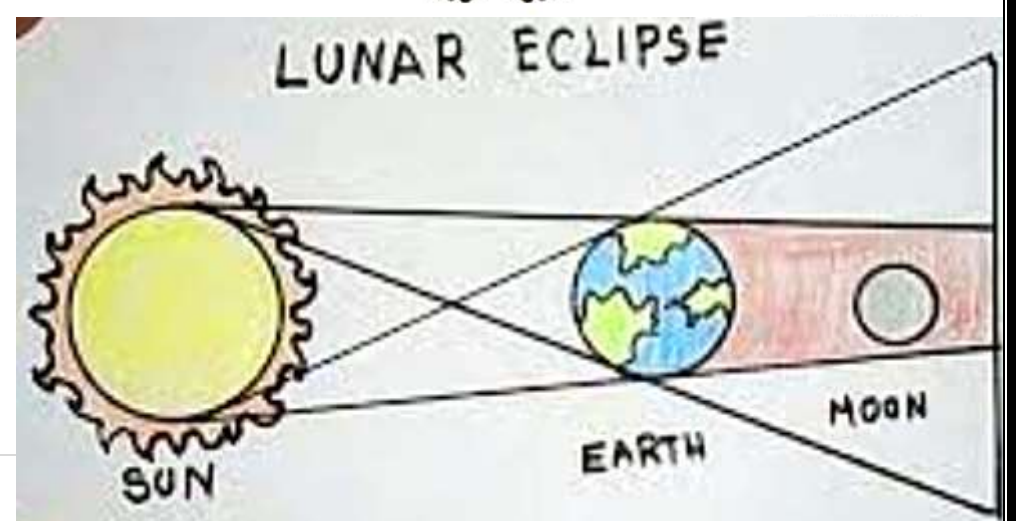
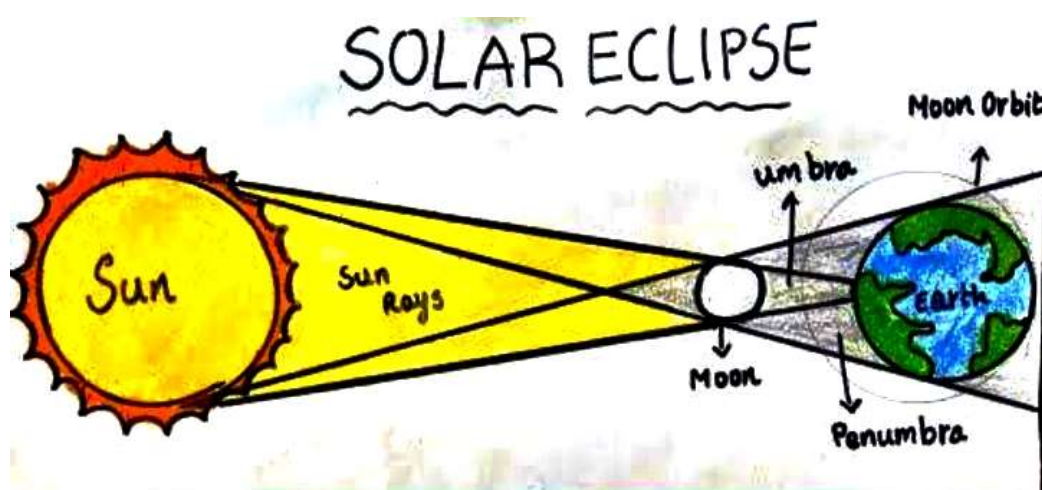
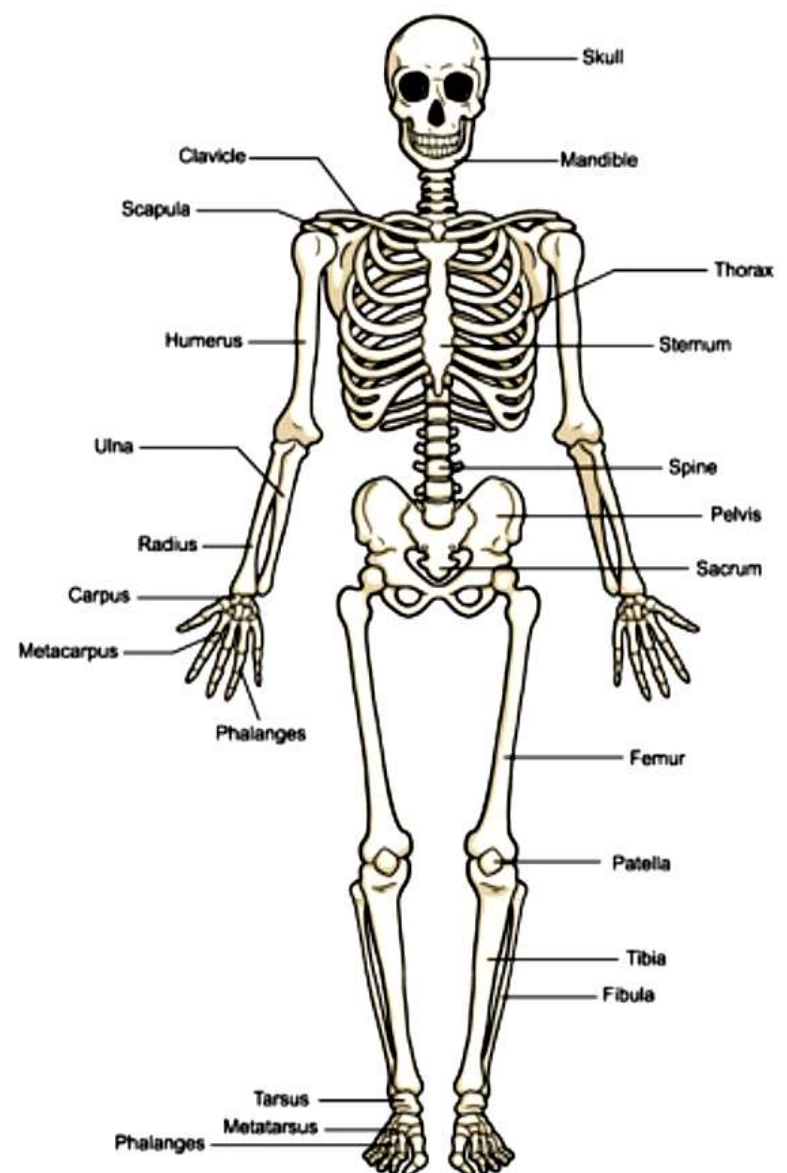
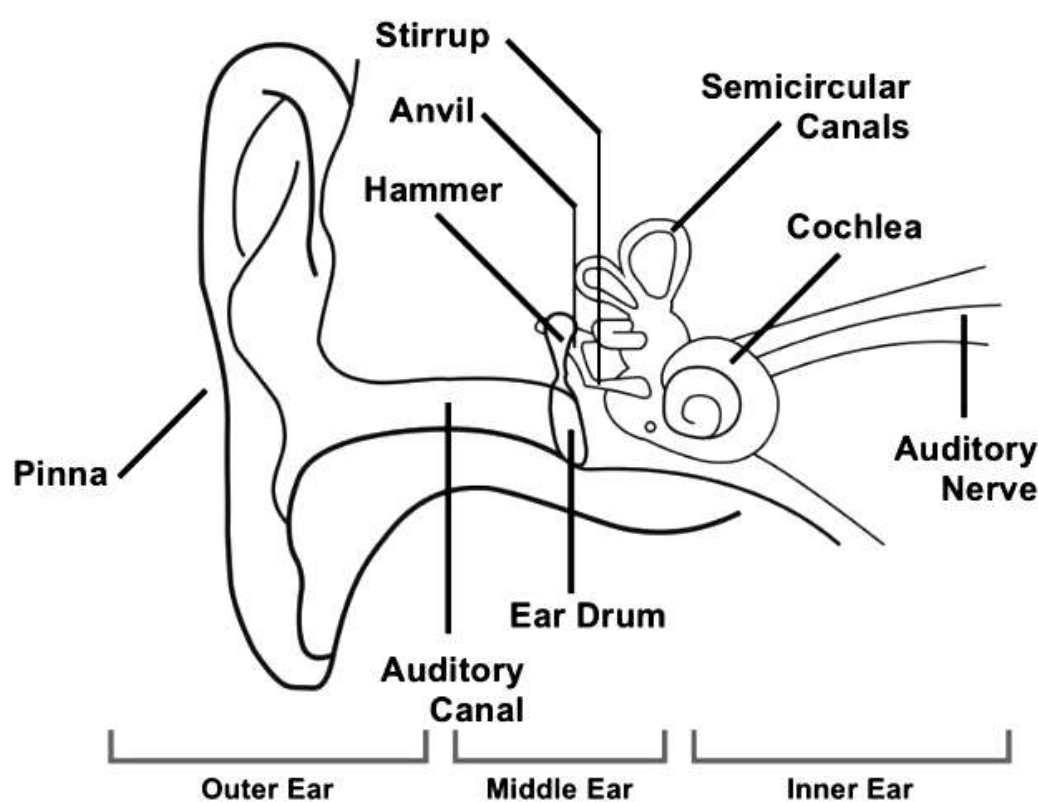




**SUREKEY EXAMINATIONS BOARD**  
**PRIMARY SEVEN MAGIC SERIES**  
**2023**  
**INTEGRATED SCIENCE**  
**OFFICIAL MARKING GUIDE**

**PREPARED BY:**

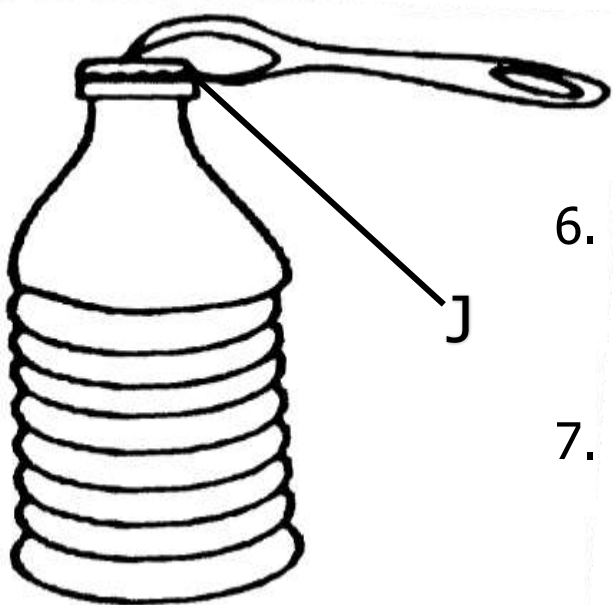
**JAMIE HUMPHREY 0757451425**



## **SECTION A: 40 MARKS**

1. Name the body organ that is affected by a scald.  
✓ **the skin//skin**
2. Which vector spreads typhus fever to people?  
✓ **lice//flea//mite (reject tick)** ADVICE: *Revise all disease vectors*
3. State any **one** characteristic of tuber crop pests.  
✓ **Some have sharp claws to dig out soil.**  
✓ **They have sharp incisors for biting the tubers.**  
✓ **Some have limbs with fingers to uproot the plant.**  
✓ **Some are capable of living under the ground.**  
✓ **Insect tuber pests have mandibles to chew leaves and bite the root tubers.**
4. Give any **one** mammal that uses echoes in its daily life.  
✓ **Bats**    ✓ **otter**    ✓ **dudong**  
✓ **Whale**    ✓ **seal**  
✓ **Dolphin**    ✓ **porpoise**  
**NOTE:** all sea mammals use echoes for;  
✓ *Dodging obstacles in water*    ✓ *Locating food in water*  
**ADVICE:** take learners through the concept of echoes i.e.  
✓ *Meaning*    ✓ *Disadvantages*  
✓ *Advantages*    ✓ *control*
5. What is the importance of the long thin legs to wading birds?  
✓ **Long thin legs help wading birds to walk through water and muddy places.**  
**ADVICE:** Guide learners to understand;  
✓ *Groups of birds*    ✓ *Feeding habits*  
✓ *Characteristics*    ✓ *Structure of the feet and beaks*

The diagram below is of a simple machine being used. Use it to answer questions **6** and **7**.



6. To which class of levers does the simple machine above belong?  
✓ **Second class levers//2nd class levers**
7. Using an arrow and letter **J**, show the turning point of the machine.

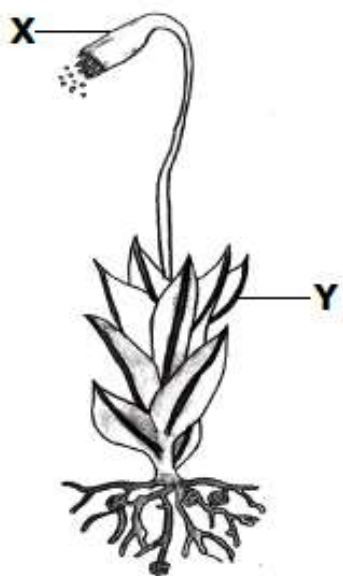
8. Apart from brewing alcohol, give any **one** other way in which fermentation is important to people.
- ✓ It helps in the production of yoghurt.
  - ✓ It helps in the production of biogas.
  - ✓ It helps in the production of composite manure.

9. State any **one** sign of improper growth of teeth in the mouth.
- ✓ Too much space between the teeth.
  - ✓ Misaligned teeth in the mouth.
  - ✓ Missing teeth
  - ✓ When the lower teeth are too far behind the upper ones.
  - ✓ When the teeth in the lower jaw stick out past those in the upper jaw.
- ADVICE:**
- Guide learners to draw the structure of the tooth, label the parts and state their functions.
  - Help learners to know types of teeth, functions and adaptations of each type.
10. Name the type of soil erosion that can result into landslides in mountainous areas.
- ✓ Gully erosion
11. State any **one** advantage of regular bathing to an individual.
- ✓ It helps to prevent skin diseases
  - ✓ Helps to prevent body smell
  - ✓ It helps to remove dirt from the body
  - ✓ It helps to kill germs from the body (**Reject**; *It helps to promote personal hygiene*)
12. Give any **one** way in which gravitational force is important in the environment.
- ✓ It enables people to pick fruits from trees.
  - ✓ It keeps air in the atmosphere.
  - ✓ It helps rain to fall from the sky.
  - ✓ It keeps objects on the ground.
  - ✓ It helps to bend light.
  - ✓ It helps in winnowing.
  - ✓ It enables people to draw water from borehole holes and taps
13. In which way is blood plasma important during respiration?
- ✓ Blood plasma transports digested food to the body cells to be oxidized by oxygen to produce energy.
14. Which property of light enables drivers to see traffic behind them using side mirrors?
- ✓ Light can be reflected //reflection of light (**reject** refraction of light).
15. Give any **one** example of a plant fibre in the environment.
- ✓ Cotton wool
  - ✓ Jute
  - ✓ Hemp
  - ✓ Sisal
  - ✓ Flax
  - ✓ Linen
  - ✓ banana fibres
  - ✓ raffia
16. State any **one** way in which Primary Health Care is important to the community.
- ✓ Controls population growth
  - ✓ Controls malnutrition
  - ✓ Controls disease outbreak
  - ✓ Provides health education
  - ✓ Promotes use of safe water
  - ✓ Promotes environmental protection
  - ✓ Promotes proper sanitation and personal hygiene.
  - ✓ Prevents high infant and maternal mortality rate
  - ✓ Ensures proper care of the disadvantaged
  - ✓ Promotes administration of first aid
  - ✓ Promotes good health lifestyles
  - ✓ Encourages communal participation in solving health problems.



17. Give any **one** reason why a rabbit hutch is built using a wire mesh.
- ✓ To allow proper circulation of air in the hutch.
  - ✓ To allow enough light in the hutch. (**Reject:** to protect rabbits from wild animals)
18. State any **one** way in which the jelly laid with eggs is important to the amphibians.
- ✓ Protects eggs from being eaten by predators.
  - ✓ Prevents eggs from being swept away by water waves.
  - ✓ Helps eggs to float on water.
  - ✓ Holds eggs together for easy fertilization.
- NOTE:**
- Help learners to know that the slippery substance is called jelly not spawn jelly.
  - A spawn is a group of eggs laid by amphibians.
19. Name any **one** method that can be used to prepare local dishes at home.
- |            |            |            |
|------------|------------|------------|
| ✓ Mingling | ✓ Roasting | ✓ steaming |
| ✓ Frying   | ✓ Stewing  |            |
| ✓ Boiling  | ✓ Baking   |            |
20. State any **one** way in which biological changes are important in the environment.
- ✓ Enable life to continue through reproduction.
  - ✓ Enable living things to multiply.
  - ✓ Help animals increase in size through moulting.
  - ✓ Help some animals protect themselves.
  - ✓ Enable some living things to get food.
  - ✓ Physical fitness of the body improves its immunity.
  - ✓ Growth of teeth enables people to eat food.

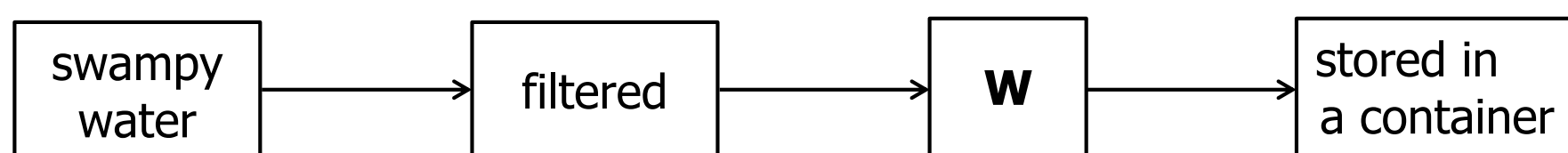
The diagram below shows a non-flowering plant. Use it to answer questions **21** and **22**.



21. Name the part marked **X**.
- ✓ Spore case//capsule
22. How is part marked **Y** useful to the non-flowering plant shown above?
- ✓ Makes food for the plant.
23. State any **one** way in which flush toilets can be properly maintained.
- ✓ Flush the toilet with water after use.
  - ✓ Scrubbing the floor with a toilet brush.
  - ✓ Do not use hard materials for cleaning yourself.
  - ✓ Do not squat or stand on the bowl.
  - ✓ Using a toilet paper to clean oneself after defecating.
24. Apart from Angora goats, which other breed of goats promotes the development of textile industries?
- ✓ Cashmere goats

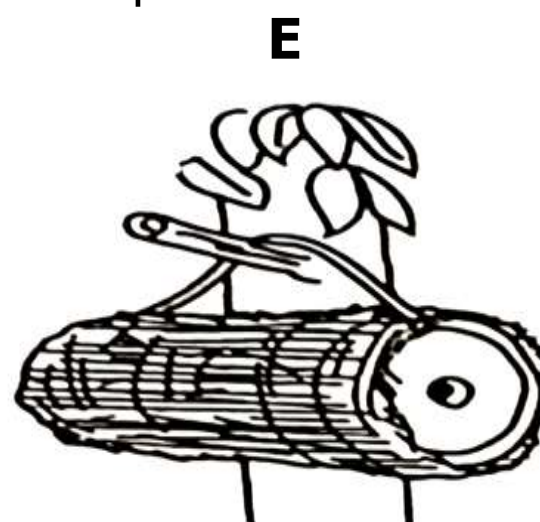
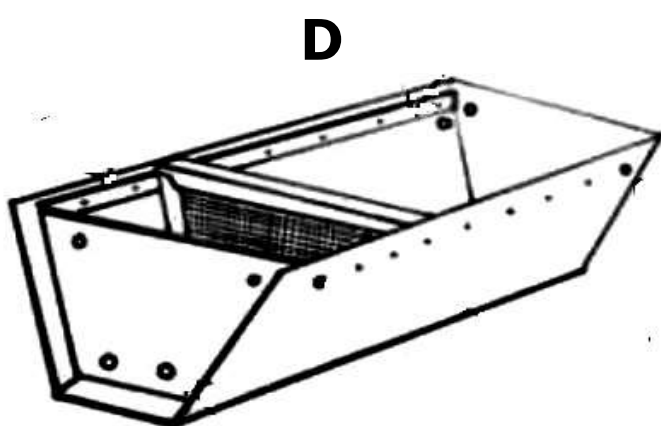
25. State any **one** factor that should be considered before setting up a woodlot.
- ✓ Capital
  - ✓ Land
  - ✓ drainage of soil
  - ✓ water source
  - ✓ management
  - ✓ tree species
  - ✓ site
  - ✓ labour
26. State any **one** way in which saliva is important in the process of digestion.
- ✓ Saliva softens food
  - ✓ Saliva lubricates food
  - ✓ Saliva contains salivary amylase that speeds up the digestion of starchy food.
  - ✓ Saliva moistens food
  - ✓ Saliva binds food
- (**Reject:** *saliva cools food*)
27. Name the material used to stitch the bandage at the wound when giving first aid.
- ✓ Safety pin
28. Calculate the mass of an object whose density is 6g/cc and volume is 14cc.
- Mass = density x volume
- $= 6\text{g/cc} \times 14\text{cc}$
- Mass = 84g
29. Name the substance that protects the skin against strong sun rays.
- ✓ Melanin (**Reject** melanine)
- ADVICE:** *Guide learners on the following about the skin*
- ✓ Structure
  - ✓ Functions of parts
  - ✓ Functions of the skin
  - ✓ How the skin regulates body temperature
  - ✓ Practices that damage the skin
  - ✓ Diseases and disorders
30. Give any **one** example of an energy resource that can be obtained from water.
- ✓ Hydroelectricity
  - ✓ steam energy
  - ✓ tidal energy
  - ✓ geothermal energy
31. Identify any **one** activity that people can do using heat transfer by
- ✓ Ironing clothes
  - ✓ cooking food
  - ✓ curling ladies' hair in salons using tongs.
  - ✓ welding metals
  - ✓ smelting metals

The diagram below shows different ways in which water can be used by a family to make swampy water safe for drinking. Use it to answer questions **32** and **33**.



32. Identify the activity carried out at point **W**.
- ✓ Boiling water
  - ✓ Chlorination
  - ✓ flouridation
33. Why is the swampy water filtered before being taken to point **W**?
- ✓ To remove impurities from water
  - ✓ To make water clean

34. Give any **one** way of preventing diseases without using essential drugs.
- ✓ Feeding on a balance diet.
  - ✓ Doing regular physical body exercises.
  - ✓ Having enough rest and sleep.
  - ✓ Controlling disease vectors.
35. Which property of air helps people to inflate bouncing castles?
- ✓ Air can be compressed (**Reject**; *air occupies space*)
36. Apart from carbohydrates, give any **one** other class of food that provides energy to the body.
- ✓ Fats//fats and oils.
  - ✓ proteins
37. In which part of a cotton flower does fertilization take place?
- ✓ In the ovary
- The diagram below shows beehives. Use it to answer questions **35** and **36**.

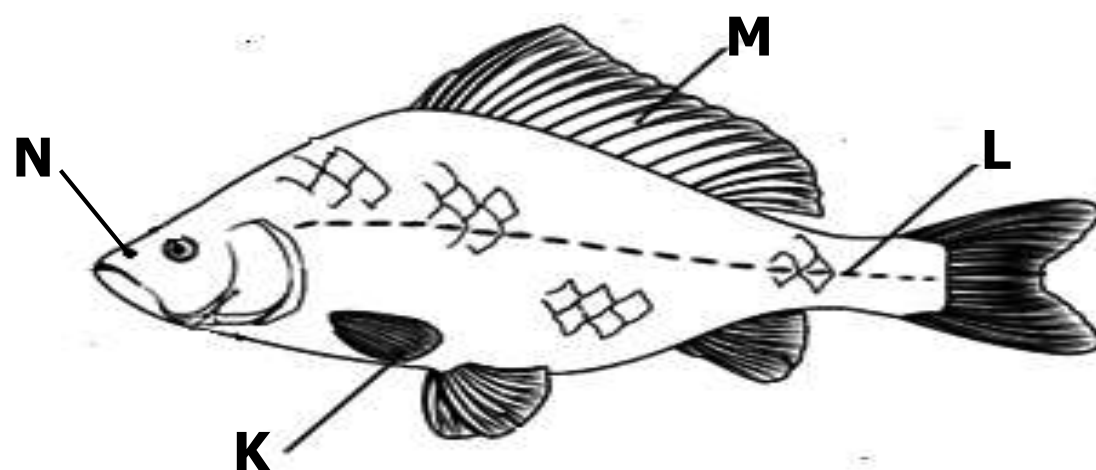


38. Name the beehive marked **E**.
- ✓ Kigezi hive
39. State any **one** advantage of using beehive marked **D** in keeping honey bees.
- ✓ Honey harvested in hive D is clean.
  - ✓ Hive D is inspected easily.
  - ✓ High quality honey is harvested.
  - ✓ Honey combs can be removed and replaced.
  - ✓ Worker bees build their combs on each bar.
  - ✓ The colony develops undisturbed.
  - ✓ It is long lasting.
40. Write down any **one** piece of information collected during a health survey.
- ✓ Housing information.
  - ✓ Common sickness in the community.
  - ✓ Health services in the area.
  - ✓ Immunization coverage.
  - ✓ Information on food security.
  - ✓ Population status.
  - ✓ Birth and death rates.
  - ✓ Source of water.
  - ✓ Level of health education.
  - ✓ Economic status of people.
  - ✓ Sanitation information

### **SECTION B: 60 MARKS**

41. (a) Name the germ that causes typhoid to people.
- ✓ **Salmonella typhi**//bacteria
- (b) State any **two** ways in which people can contract typhoid.
- ✓ eating food with un washed hands
  - ✓ Drinking contaminated water.
  - ✓ Serving food in dirty containers.
  - ✓ Eating contaminated food.
  - ✓ Drinking contaminated milk.
  - ✓ Eating food from dirty container.

- (c) Give any **one** piece of advice you would give to people in order to control the outbreak of typhoid in their homes.
- ✓ Cleaning water sources.
  - ✓ Washing hands before handling food.
  - ✓ Proper disposal of faeces and urine.
  - ✓ Spraying with insecticides to kill houseflies and cockroaches.
  - ✓ Proper disposal of rubbish.
  - ✓ Keeping latrines/toilets clean.
42. (a) Apart from chemicals, name any **two** other materials that affect the quality of soil.
- ✓ Plastics
  - ✓ polythene bags
  - ✓ old clothes
  - ✓ rubber
  - ✓ Broken bottles
  - ✓ Nails
  - ✓ broken glass
- (b) State any **two** ways in which chemicals affect the quality of soil.
- ✓ They kill soil organisms
  - ✓ They spoil the structure and nature of the soil
  - ✓ They make soil lose its ability to generate its own fertility.
  - ✓ Waste oil prevents air and water from entering the soil.
43. (a) State any **two** ways in which a primary seven candidate can use friction when doing his/her Primary Leaving Examinations (P.L.E).
- ✓ When writing exams.
  - ✓ When rubbing using an eraser.
  - ✓ When drawing diagrams.
- (b) Why is grease applied on the chain of a bicycle?
- ✓ To reduce friction when riding the bicycle.
- (c) What is the importance of treads that are put on the car tyres and bicycle wheels?
- ✓ Treads increase friction on tyres.
44. The diagram below is of a vertebrate. Study and use it to answer the questions that follow.



- (a) Name the parts marked **K** and **M**.
- (i) **K** pectoral fin
  - (ii) **M** dorsal fin
- (b) Give the function of the part marked **L** to the vertebrate above.
- ✓ To detect sound waves in water.
  - ✓ To sense danger in water.

(c) Which part on the vertebrate above has the same function as the antennae of an insect?

✓ **Part L**

✓ **Part N**

45. The table below shows vaccines received by five babies at different immunization periods. Study and use it to answer the questions that follow.

Babies	Vaccine received			
	Polio	BCG	DPT	Measles
O	X	X	X	X
P	✓	✓	✓	✓
Q	✓	X	✓	✓
R	X	X	X	✓
S	✓	X	X	✓

(a) Which baby received all the vaccines?

✓ **Baby P**

(b) Identify the vaccine that most babies did not receive.

✓ **BCG vaccine**

(c) Name any **one** disease that is likely to attack babies **O**, **R** and **S**.

✓ **Diphtheria**

✓ **whooping cough**

✓ **Pertussis**

✓ **tetanus**

(d) Give any **one** other vaccine that babies could have received.

✓ **Hep B vaccine**

✓ **rotavirus vaccine**

✓ **PCV**

46. (a) Write down any **two** steps that a cattle farmer would take to obtain clean milk.

✓ **Clean the milking place.**

✓ **Wash hands before milking**

✓ **Use clean containers when milking.**

✓ **Washing the udder and teats with clean war water.**

(b) Give any **one** advantage of machine milking over hand milking.

✓ **Machine milking is quicker than hand milking**

✓ **Machine milking does not contaminate milk unlike hand milking**

✓ **Machine milking enables a farmer o milk more cows within a short period of time unlike hand milking.**

**(Reject; answers without comparison)**

(c) How does pasteurization help to preserve milk?

✓ **Pasteurization kills germs in milk.**



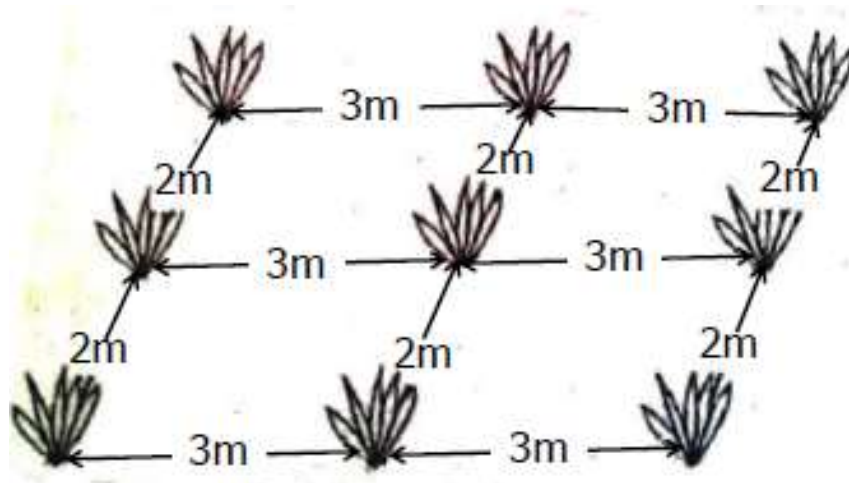
47. Use the list of substances below to answer the questions that follow.

**ice, sugar, steam, water**

- (a) Which substance on the list is formed as a result of evaporation?  
✓ **steam**
- (b) Identify the substance on the list that is;  
(i) a solute **sugar**  
(ii) a universal solvent **water**
- (c) Give any **one** way in which ice and sugar on the list above are similar.  
✓ **Both ice and sugar melt when heated.** ✓ **Both ice and sugar are solids.**  
✓ **Both ice and sugar have closely packed molecules.**

48. (a) Name any **one** example of the types of bones below in the human body.  
(i) Short bones **tarsals//carpels//phalanges//metatarsals**  
(ii) Flat bones **skull//scapula//patella (knee cap)**
- (b) Identify the body system to which bones belong.  
✓ **Skeletal and muscular system**
- (c) How is the function of synovial fluid similar to that of the cartilage in the joint?  
✓ **Both synovial fluid and cartilage reduce friction at a joint.**

49. The diagram below shows a method of planting crops in the garden. Study and use it to answer the questions that follow.



- (a) Identify the method of planting crops shown in the diagram above.  
✓ **Row planting**
- (b) State any **two** advantages of spacing crops as shown in the diagram above.  
✓ **Makes pruning of crops easier.**  
✓ **It makes weeding easy** ✓ **It makes harvesting easy.**  
✓ **It gives enough space to crops in the garden.**  
✓ **It prevents easy spread of crop diseases**  
✓ **Reduces competition for sunlight, water and nutrients among the crops.**
- (c) Which garden tool is suitable for spacing crops as shown in the diagram above?  
✓ **Tape measure.** ✓ **garden line**  
✓ **String**

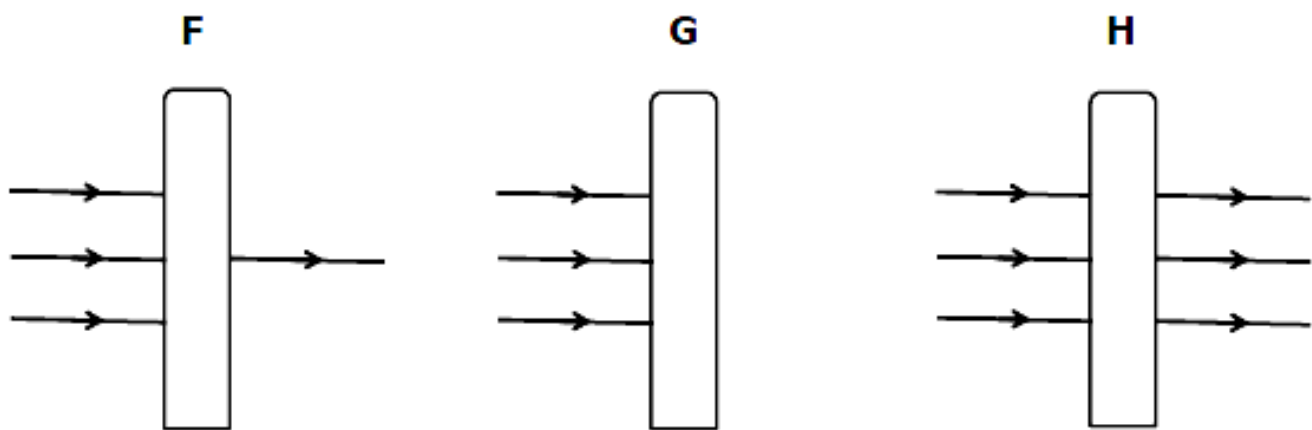
50. (a) Give any **one** reason why pregnant mothers are advised to eat food rich in proteins.
- ✓ To repair the worn out body tissues.
  - ✓ To replace the worn out body cells.
  - ✓ To promote proper growth of the foetus (unborn baby)
- (**Reject:** to promote proper growth of the body /baby/To repair worn out body cells)
- (b) Apart from proteins, write down any **two** other classes of food that a pregnant mother should eat.
- ✓ Vitamins.
  - ✓ mineral salts
  - ✓ Carbohydrates.
  - ✓ fats and oils
- (c) How can the pregnant mother protect her unborn baby from tetanus during child birth?
- ✓ By immunization using tetanus toxoid vaccine.

51. Match correctly the parts of the ear with their functions in the spaces provided below

A: Parts of the ear	B: Functions
Pinna	Converts sound vibrations into nerve impulses.
Eardrum	Amplify sound vibrations.
Ossicles	Changes sound waves into vibrations.
Cochlea	Collects sound waves from the surroundings.

- (i) Pinna      **Collects sound waves from surroundings.**
- (ii) Eardrum   **Changes sound waves into vibrations**
- (iii) Ossicles   **Amplify sound vibrations.**
- (iv) Cochlea   **Convert sound waves into vibrations**
52. (a) How is a rain gauge useful at a weather station?
- ✓ It measures the amount of rainfall received in an area.
- (b) Name the **two** components of a rain gauge.
- ✓ Measuring cylinder
  - ✓ Funnel
  - ✓ metallic can
- (c) Why should a rain gauge be put in an open place?
- ✓ To prevent obstructing rain water entering it.
  - ✓ To get accurate measurement of rainfall.

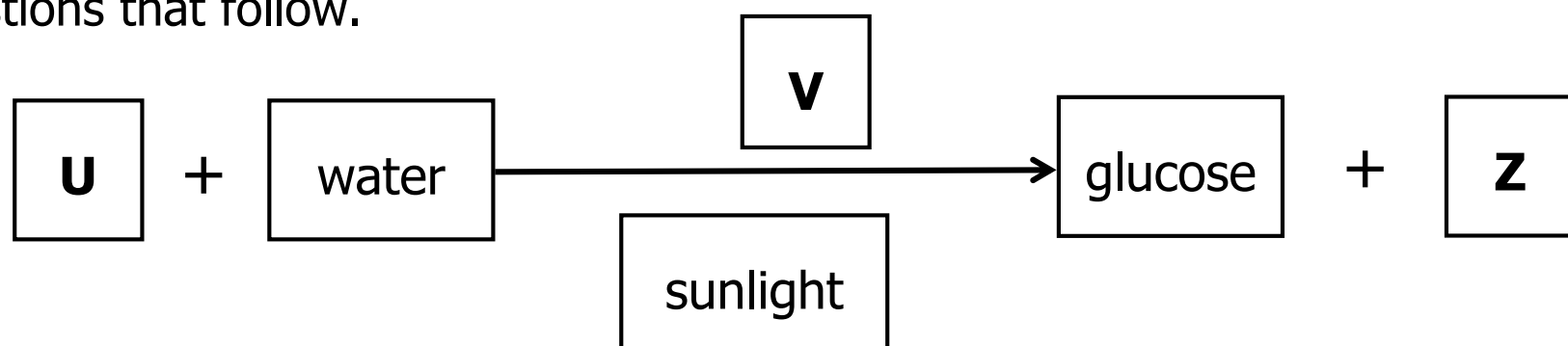
53. The illustrations below show the effects of different objects on light. Study and use it to answer the questions that follow.



- (a) Name the types of objects represented by the illustrations marked **F** and **G**.
- (i) **F** translucent
- (ii) **G** opaque
- (b) State any **one** use of objects represented by illustration marked **H** to people.
- ✓ Used for making eye pieces of some optical instruments.
  - ✓ Such objects are used as driving mirrors.
  - ✓ Used in window and door frames to allow light out used on lantern lamp to allow light pass out.
- (C) Give any **one** other object that belongs to illustration marked **F**.
- ✓ Frosted glasses
  - ✓ waxed paper
  - ✓ tissue paper
  - ✓ cloth
  - ✓ toilet paper
  - ✓ smoky air
  - ✓ coloured polythene paper

54. (a) Mention **two** systems of keeping poultry where birds are kept for commercial purpose.
- ✓ **deep litter system**
  - ✓ **battery system**
  - ✓ **cage system**
- (**Reject;** *fold system//free range system*)
- (b) Give any **two** advantages of artificial brooding in poultry management.
- ✓ **It protects chicks from bad weather conditions.**
  - ✓ **It protects chicks from predators**
  - ✓ **It provides chicks with warmth continuously**
  - ✓ **Many chicks are catered for.**
  - ✓ **There is easy control of diseases among chicks.**
  - ✓ **There is easy monitoring of the chicks and temperatures.**

55. The diagram below shows a plant process. Study and use it to answer the questions that follow.



- (a) Which process in plants is shown in the diagram above?
- ✓ **Photosynthesis**
- (b) Name the substances represented by letters **U** and **V**.
- (i) **U** - carbon dioxide
- (ii) **V** - chlorophyll
- (c) How do animals benefit from the substance produced at **Z**?
- ✓ **For burning glucose during respiration.**
  - ✓ **For respiration.**
  - ✓ **for production of energy in the body cells.**

**END**

\*\*\*\*\*