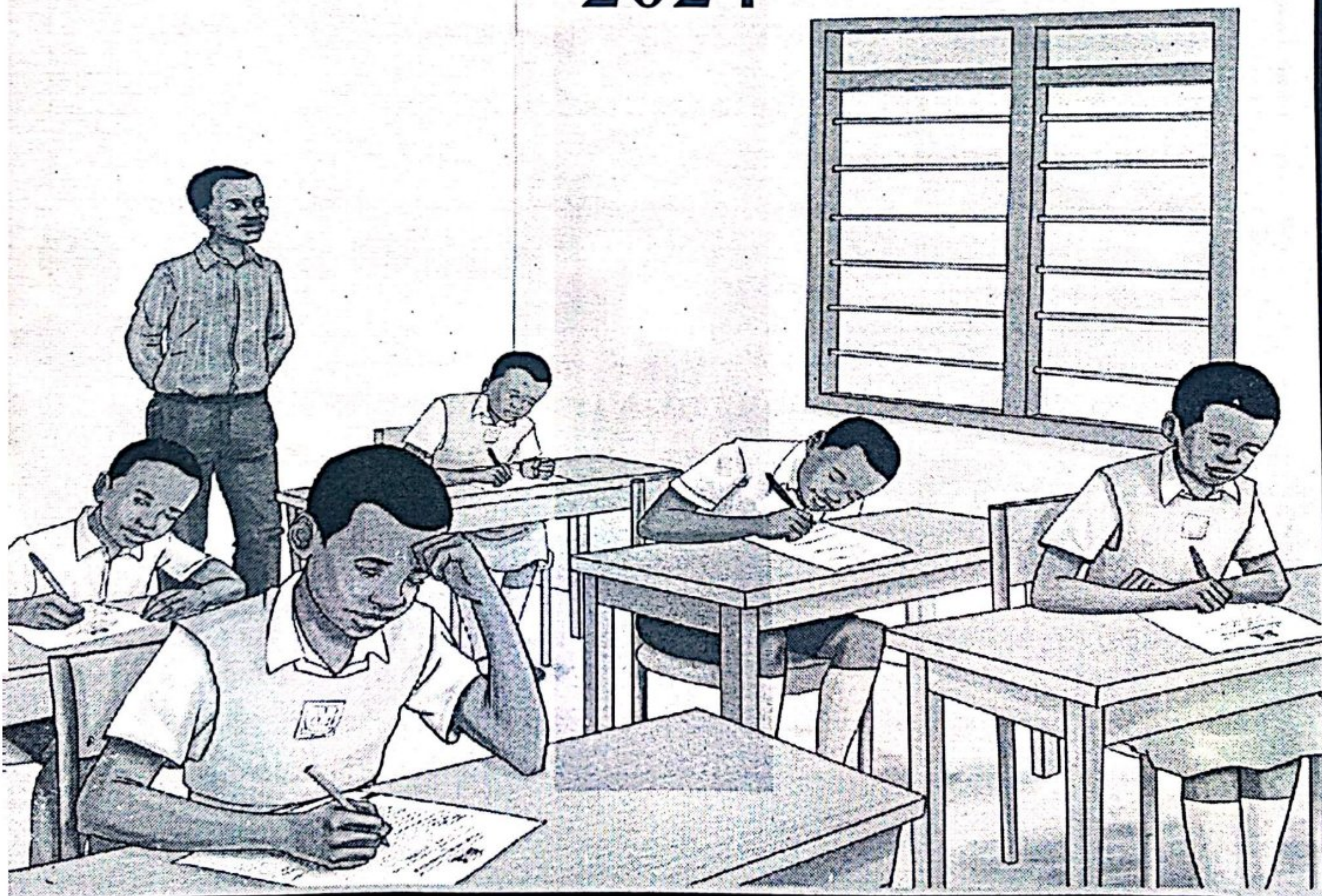


SUREKEY EXAMINATIONS BOARD



"Don't speak for Quality, Let Quality Speak for itself"

2024



INTEGRATED SCIENCE SUPER SERIES
OFFICIAL MARKING GUIDE

SECTION A: 40 MARKS

1. Name the communicable intestinal disease that makes a person to pass out blood-stained stool.
Dysentery
2. State any **one** method that can be used to preserve skins from animals.
Wet salting//Suspension drying
3. Give any **one** way in which animals benefit from plants in the environment.
Some animals get food from plants
Animals get oxygen from plants
Animals get shelter from plants
Animals get herbal medicine from plants

4. Name any **one** material transported by the blood capillaries in the human body.
Food nutrients//Oxygen
Body wastes (carbon dioxide, urea, excess salts etc)

The diagram below shows the front view of the human eye. Use it to answer questions 5 and 6.



5. Name the part marked E.
Sclera
6. State the function of part marked F on the human eye.
To control the amount of light entering into the eye
7. Apart from an ostrich, give any **one** other example of a flightless bird.
Emu//Kiwi//Cassowary//Penguin//Rhea//Kakapo
8. State the difference in function between the root hairs and root nodules on a plant.
Root hairs absorb water and dissolved mineral salts from the soil while root nodules store/keep nitrogen fixing bacteria.
9. Give any **one** reason why farmers dock their female sheep.
To ease mating (Reject: For proper distribution of fats//To remove the hiding places of parasites//To promote proper hygiene of female sheep)
10. State any **one** way in which the amount of electricity produced by a bicycle dynamo can be increased.
Increasing the speed of rotation.
Increasing the number of coils in the solenoid
Strengthening the magnetic field in the dynamo
Strengthening the electromagnet in the dynamo
11. Give any **one** example of a natural fibre obtained from animals.
Wool//Mohair//Fur//Silk//Fleece//Corny hair

12. Mention any **one** sign of scurvy in humans.
Bleeding gums//Poor healing of wounds//Pain in the joints and muscles//Retarded growth
13. Which part of the vacuum flask prevents heat loss or gain by conduction?
Cork
14. State any **one** way in which alcohol is useful in hospitals.
For mixing some medical drugs//For sterilizing medical equipment
15. In which **one** way are perches useful in a poultry house?
For the birds to rest on//Enables the birds to do physical exercises

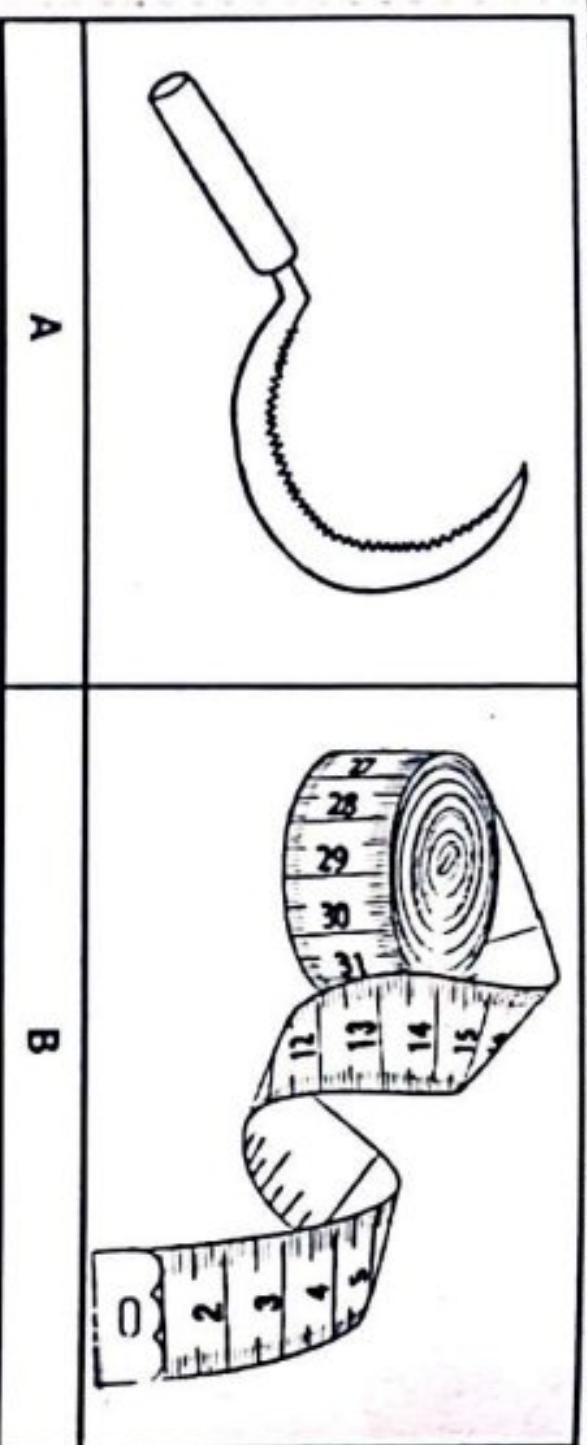
The diagram below shows a proper method of harvesting trees in agroforestry. Use it to answer questions 16 and 17.



16. Name the method of harvesting trees shown in the diagram above.
Coppicing
17. State any **one** advantage of harvesting trees using the method above.
Allows the sprouting/growth of new shoots
18. State the danger of seeking shelter under trees when it is raining.
A person can be struck by lightning
19. Give any **one** way in which a school health club promotes health in a school.
Through teaching pupils, the importance of promoting proper personal hygiene.
Through carrying out health education at school
Encouraging pupils to wash their hands after visiting the latrine
Providing hand washing facilities at school
Monitoring the preparation of food at the kitchen
20. Write down any **one** example of a beverage perennial crop.
Tea//Coffee//Cocoa//Grapes
21. Give any **one** way in which melanin is important in the human skin.
It protects the human skin against strong radiations from the sun
22. Mention any **one** disease that can be worsened due to tobacco smoking.
Tuberculosis//Pneumonia//Whooping cough/pertussis//Asthma
23. State any **one** function of the placenta during pregnancy.
It supplies the food and oxygen to the foetus
It receives and stores the wastes from the foetus
It attaches the foetus to the uterus

24. State any **one** way in which the spread of tapeworms can be prevented.
Eating well-cooked meat//Regular deworming
Poor disposal of faeces

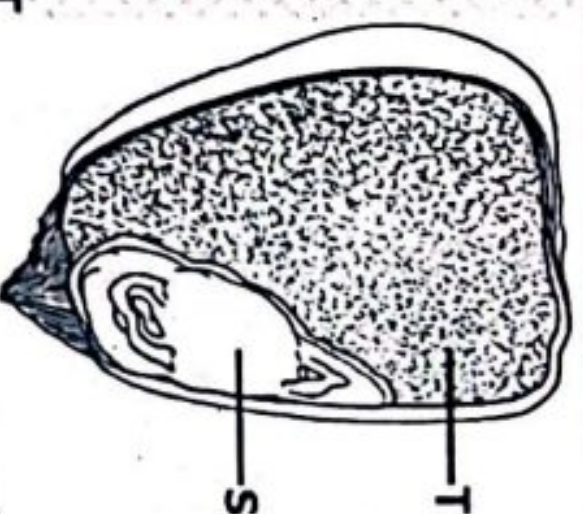
The diagrams below show garden tools. Use them to answer the questions 25 and 26.



25. Name the garden tool marked B.
Tape measure
26. Give any **one** way in which garden tool marked A is useful to crop farmers.
For harvesting cereals//For cutting grass
27. Give any **one** way in which the use of a gas cooker is helpful in the conservation of the environment.
It reduces the cutting down of trees for wood fuel
It does not produce smoke which pollutes air.
28. State any **one** way in which a periscope is useful to people.
A periscope is used by submarines to see ships on the surface of the water
Used by soldiers in the trenches to their enemies on the ground
Used by spectators to watch a match over the heads of the crowd
Used by the gatemen to see behind the fences
Used to see around corners
29. Write down any **one** example of water impurity.
Agrochemicals //Animal wastes //Industrial wastes//Silt
30. Give any **one** disorder of the human digestive system.
Constipation//Indigestion //Vomiting//Bloating//
Intestinal obstruction
31. Give any **one** way in which honey is used in industries.
Honey is used to make cough syrup
Used to make sweets and chocolates//Used as preservative
Used to make lip shiners//Used to make dye
32. State any **one** way in which the jelly round the eggs of a toad is important.
It protects the eggs from being eaten by predators
It prevents the eggs from being swept away by water waves
It holds eggs together for easy fertilization
It holds eggs to float on water//It prevents eggs from drying up

33. Name any **one** vector that spreads germs through contaminating food.
Cockroach//Housefly

The diagram below shows a maize grain. Use it to answer question 34 and 36.

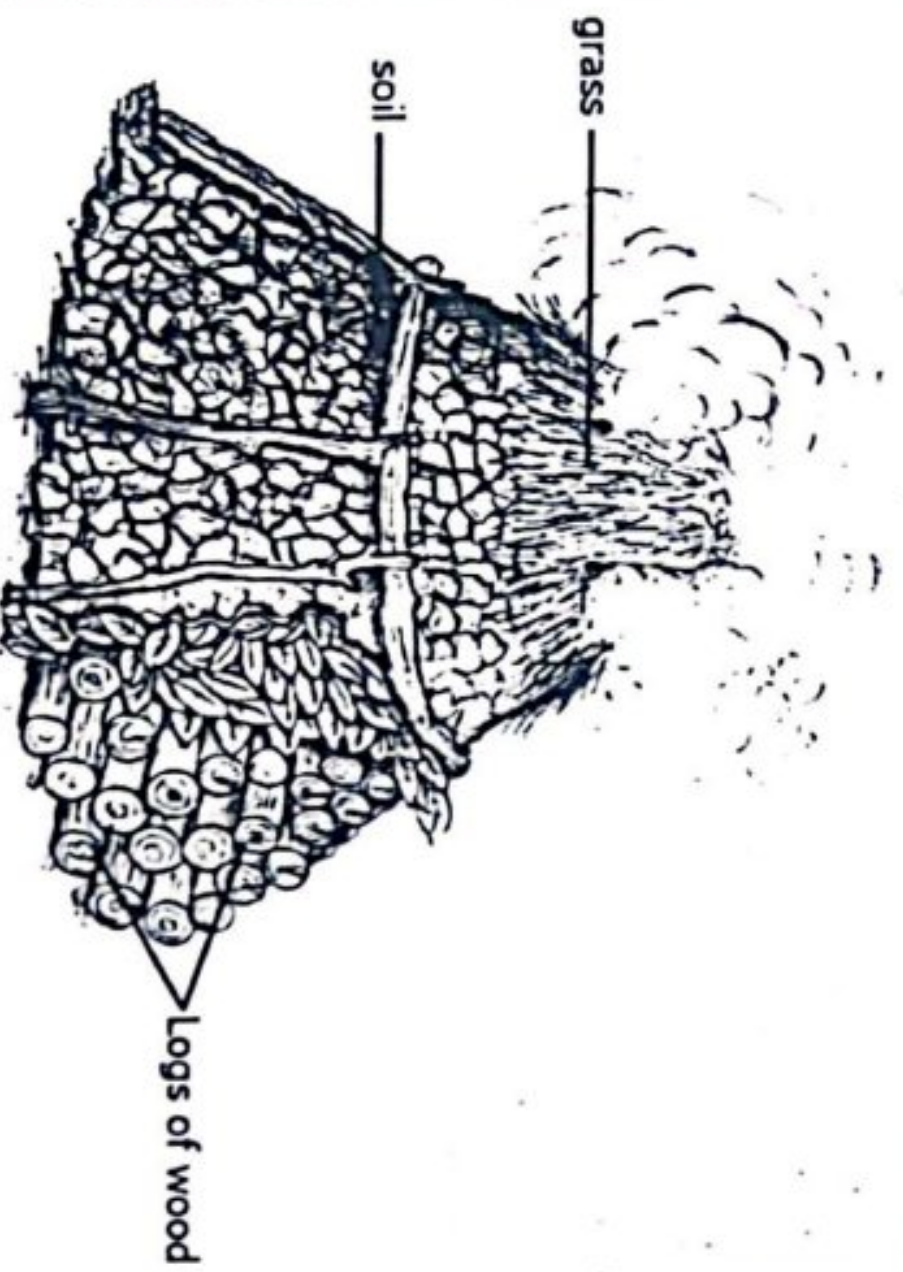


34. Name the part labelled T.
Endosperm
35. Give the function of the part labelled S to a germinating maize grain.
It supplies food to the growing embryo
36. Name the defect that affects the cornea of the human eye.
Astigmatism
37. Which sexually transmitted disease (STD) attacks the human kidney?
Gonorrhoea
38. Give any **one** form of first aid that can be given to a victim of nose bleeding.
Lean the victim forward//Pinch the soft of the nose
Encourage the casualty to breathe through the mouth
Apply cold compress on the nose
39. State any **one** way in which people can reuse polythene bags at home.
For raising seedlings//For carrying materials like food
For growing trees, flowers and vegetables
40. State any **one** characteristic of seeds dispersed by animals.
Some have hook like structures //Some seeds are found in sweet and juicy fruits//Have hard testa//Their fruits are edible
Their fruits have bright epicarps//Some of their fruits produce scent

SECTION B: 60 MARKS

41. (a) Name the method used to separate;
 (i) beans from stones : **Sorting**
 (ii) clean water and muddy water : **Decantation**
- (b) State any **two** effects of heat on liquids.
Heat causes evaporation of liquids//Heat causes the expansion of liquids//Heat gain reduces volume of liquids//Increases temperature of liquids

42. The diagram below shows a method used to obtain wood fuel from the kiln. Study and use it to answer the questions that follow.

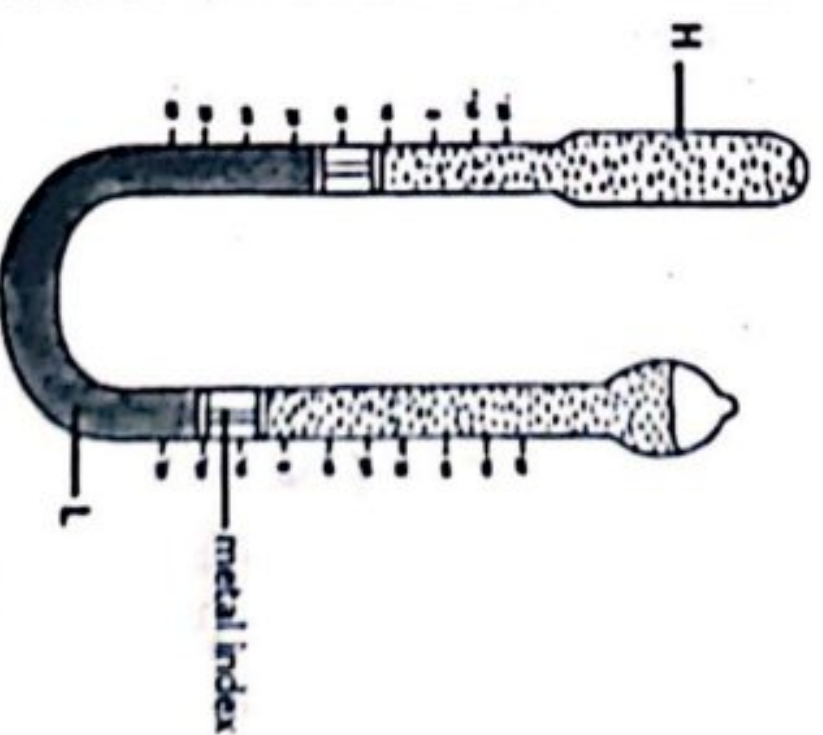


- (a) Identify the wood fuel made from the kiln above.
Charcoal
- (b) Give **one** importance of the following on the kiln above;
- (i) **Soil:** To limit the supply of oxygen to burning wood
Reduces the heat loss from the furnace
- (ii) **Grass:** Traps the soil to prevent it from falling on burning wood // Allows smoke to escape with minimal heat loss
- (c) State any **one** way in which people can conserve the wood fuel made from the kiln above.
Using charcoal saving stoves
Use of other sources of heat energy // Using charcoal sparingly
Putting out fire after cooking // Covering food while cooking
43. (a) State any **two** characteristics of bacteria;
Have no nucleus // They are made up of one cell
They reproduce by binary fission // They multiply quickly
They are found everywhere // They are tiny / microscopic
Some make their own food // They are irregular in shape
- (b) Give any **one** industry where yeast can be used when producing products.
Baking industry // **Brewing industry** // **Food processing industry** // **Wine and Spirit industry** // **Pharmaceutical industry**
- (c) Give any **one** way in which bacteria are harmful to people.
They cause diseases // **They cause food poisoning**
They make wounds septic

44. (a) Write down any **two** local materials that can be used to keep the human body clean. **Sponge** // **Pumice stone** // **Maize cob**
Charcoal powder // **Ash** // **Stick toothbrush**

- (b) Give any **two** ways in which you can identify a clean home.
Presence of clean latrines // **Presence of clean kitchen**
Presence of clean bathrooms // **Presence of rubbish pits**
Presence of dustbins // **A home free from houseflies**
A home free from dust // **tall grass** // **cobwebs in the house**
45. (a) Apart from arachnids, write down any **two** other groups of arthropods.
Myriapods // **Crustaceans** // **Insects**
- (b) State any **one** characteristic of arachnids.
Have two main body divisions
Have four pairs of jointed legs // **have eight jointed legs**
- (c) Give any **one** example of an arachnid which is a parasite to cattle.
Ticks // **Mites** // **Scorpion** // **Spider**

46. The diagram below shows a type of thermometer. Study and use it to answer the questions that follow.



- (a) Name the liquids marked H and L.
(i) **H: Mercury**
(ii) **L: Alcohol**
- (b) State the importance of the metal index on the thermometer above.
It enables the magnet to reset the six's thermometer
- (c) Give any **one** reason why the liquid marked H is used in the type of thermometer above.
It expands uniformly // **It is a good conductor of heat**
It can easily be seen in the glass // **it is opaque**
It does not wet the glass tube

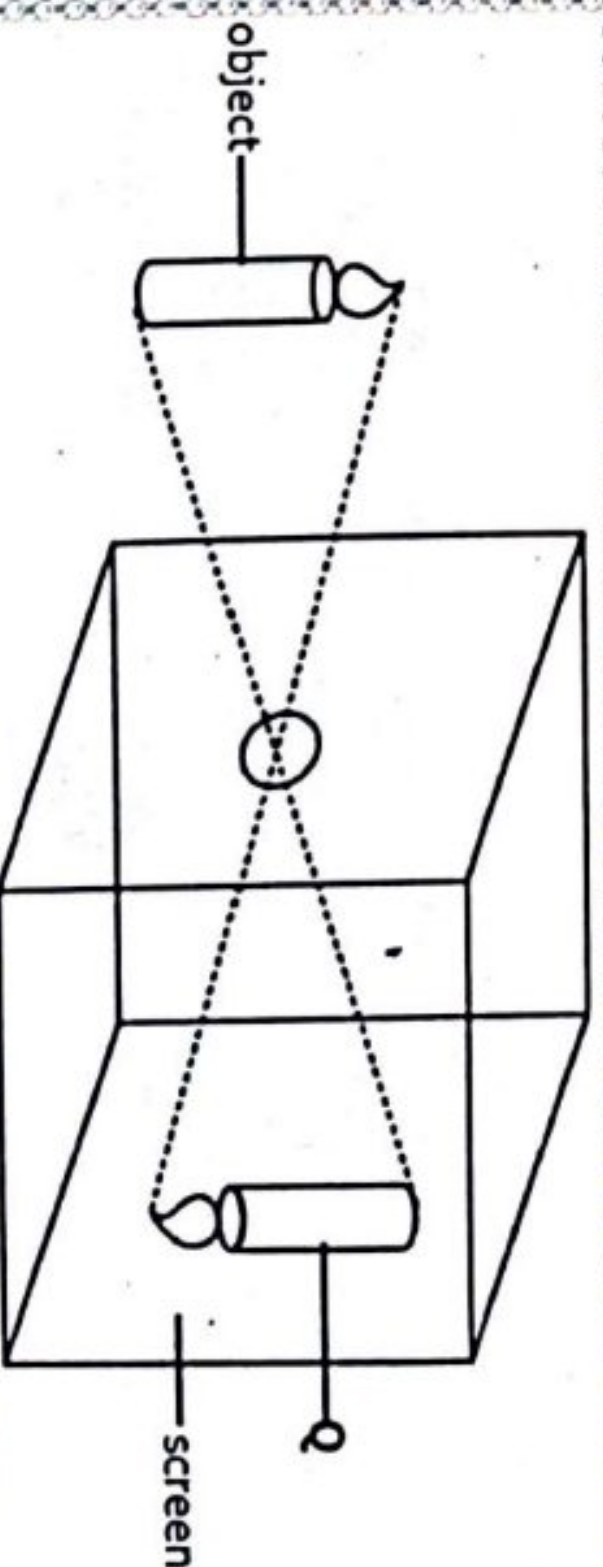
47. (a) State any **two** ways in which a cattle farmer can control inbreeding in cattle. **Through castrating animals**
Through artificial insemination // Through crossbreeding
- (b) Give any **one** exotic breed of cattle kept for meat production.
Boran//Hereford//Galloway//Charolais//Aberdeen Angus//American beefmaster
- (c) State any **one** reason why most farmers prefer keeping local breeds of cattle to exotic breeds.
Local breeds of cattle have the ability to walk long distances unlike exotic breeds.
Local breeds of cattle are more resistant to tropical diseases than exotic ones
Local breeds of cattle are more resistant to harsh weather conditions than exotic ones
Local breeds of cattle need less care and attention than exotic ones.
48. Chloe wanted to demonstrate the weight of a stone in water and air. She did the activities as shown:
- (i) In spring balance 1: The stone was dipped in water.
(ii) In spring balance 2: The stone was swinging in air.
After she observed to find the actual weight of the stone from the spring balance.
- (a) Given the two media water and air, which of the two made the stone to weigh less?
water
- (b) Give any **one** reason for your answer in (a) above.
Due more upthrust force in water than in air.
- (c) State any **one** factor that affected the weight of the stone in the media.
The mass of an object // Gravity // Upthrust force
- (d) Name the units in which Chloe measured the weight of the stone.
Newton
49. (a) Write down any **one** type of stems found in flowering plants.
Underground stems//Climbing stems//Erect stems/upright stems
- (b) Name the system of flowering plants where the stems are found.
The shoot system
- (c) Give any **two** functions of stems to a flowering plant.
They conduct water and dissolved mineral salts from the roots.
They transport food to the roots.
Some stems make food for the plant

50. (a) Name the group of simple machines to which each of the following belongs,
- (i) Screw driver: **Wheels and axles**
(ii) Ladder: **Inclined planes**
- (b) Give any **two** ways in which friction can be reduced in moving parts of a machine.
Using rollers//Lubricating the moving parts/ applying grease or oil on the moving parts

51. The table below shows diseases of poultry, cause and signs of each disease. Study it carefully and complete it correctly.

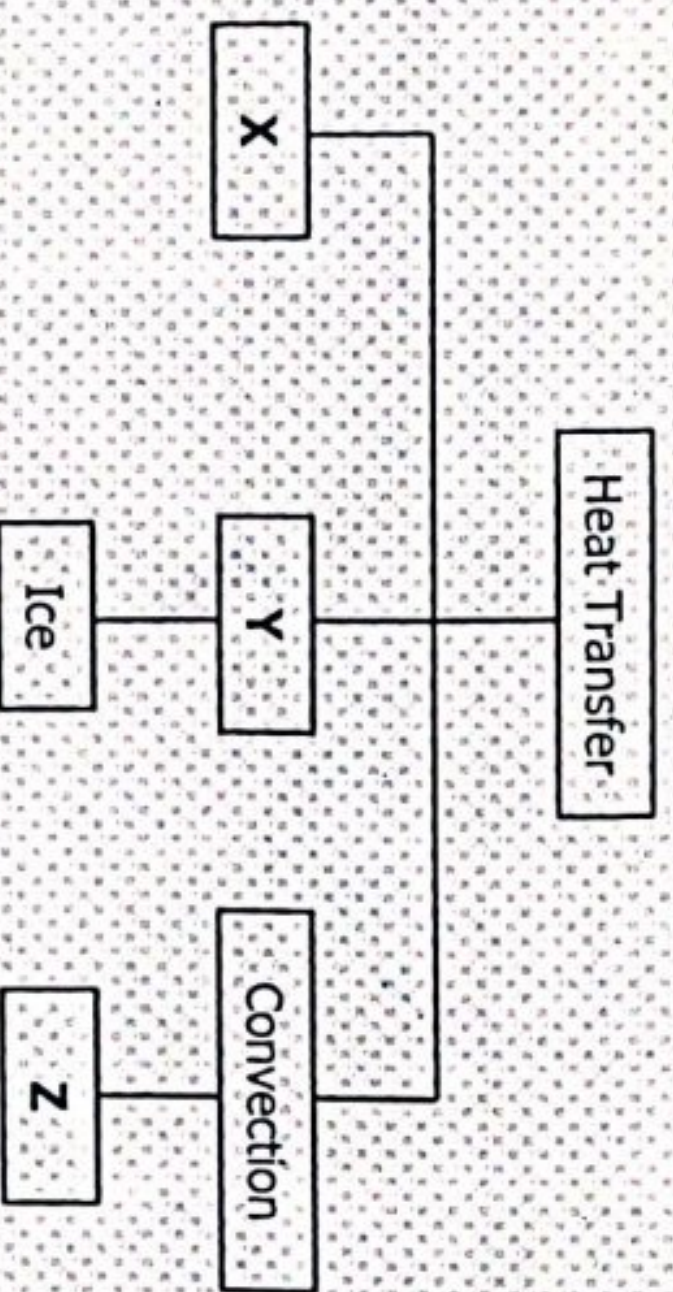
| Disease | Cause | Sign of the disease |
|--------------|----------|--|
| Coccidiosis | protozoa | Blood-stained diarrhoea |
| Fowl pox | virus | Fluid discharge from the eyes Tiny wounds on the comb, wattle and mouth. Eyes become sleepy and stuck Difficulty in breathing |
| Newcastle | virus | Twisted neck |
| Fowl typhoid | bacteria | Shrunken comb and wattle |

52. The diagram below shows a pinhole camera. Study and use it to answer the questions that follow.



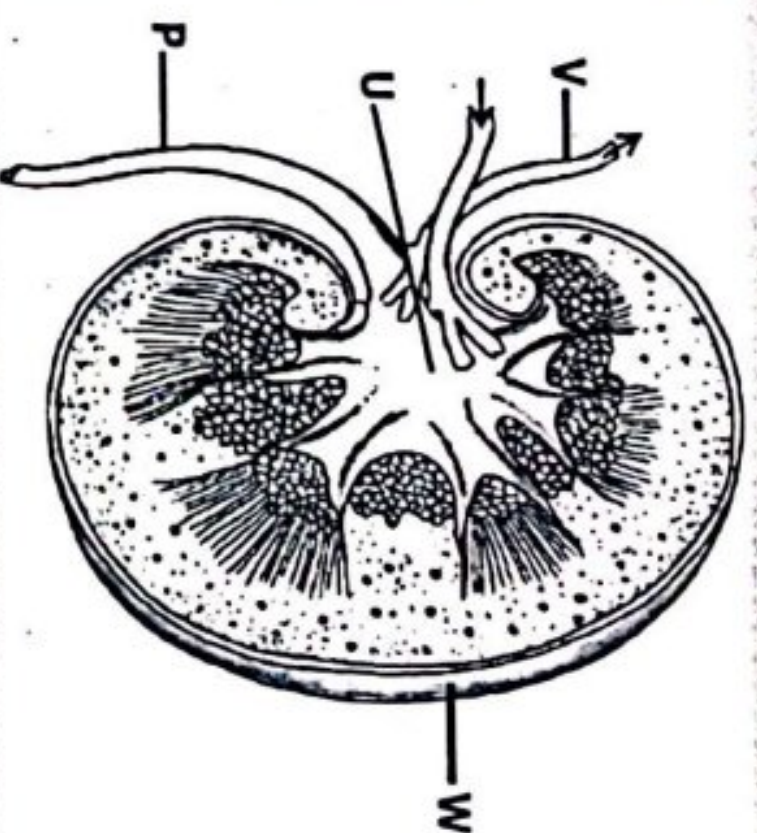
- (a) State the principle on which the diagram above works.
Light travels in straight line
- (b) Mention any **two** characteristics of part marked Q of the pinhole camera.
It is inverted//Diminished//Real
- (c) Give the importance of the screen on the camera above.
It is where images are formed

53. (a) Name the disease spread to humans by;
- Infected dog : **Rabies**
 - Louse : **Typhus fever**
- (b) How is the larva stage of a housefly useful in the pit latrine?
It reduces the volume of faeces in the pit latrine
- (c) State any **one** way in which the breeding of houseflies can be controlled.
Burning of rubbish// proper disposal of human wastes// proper disposal of rubbish
54. The table below shows methods of heat transfer. Study and use it to answer the questions that follow.



- (a) Name the methods of heat transfer marked X and Y.
- X : Radiation**
 - Y : Conduction**
- (b) Give any **one** state of matter that can be put at Z.
Liquids // Gases
- (c) State any **one** way in which the method of heat transfer at Y is important to people.
Helps in ironing// Helps in cooking// Helps in welding metals//Helps in roasting meat using an iron rod//Helps in smelting metals

55. The diagram below shows the human kidney. Study and use it to answer the questions that follow.



- (a) Name the part of the human kidney marked U.
Pelvis
- (b) Give the function of the parts marked V and W to the human kidney.
- V : To transport deoxygenated blood to the vena cava**
 - W : To filter blood**
- (c) State the difference between part P of the human kidney and the urinary bladder in the urinary system.
Part P directs urine to the urinary bladder while urinary bladder stores urine for a short time before being passed out.

END