



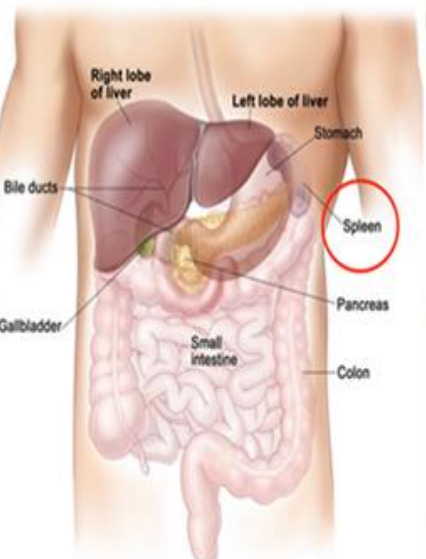
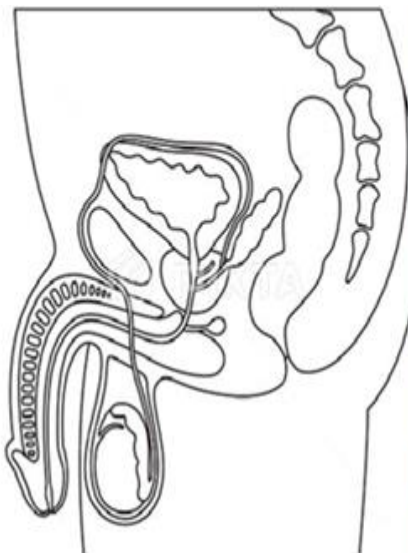
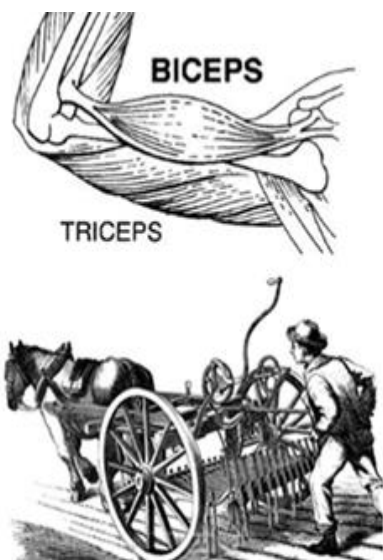
PACE – **PREPARE A CHILD** EXAMINATIONS BOARD

PACE CONSO PRIMARY LEAVING EXAMINATION SET 8

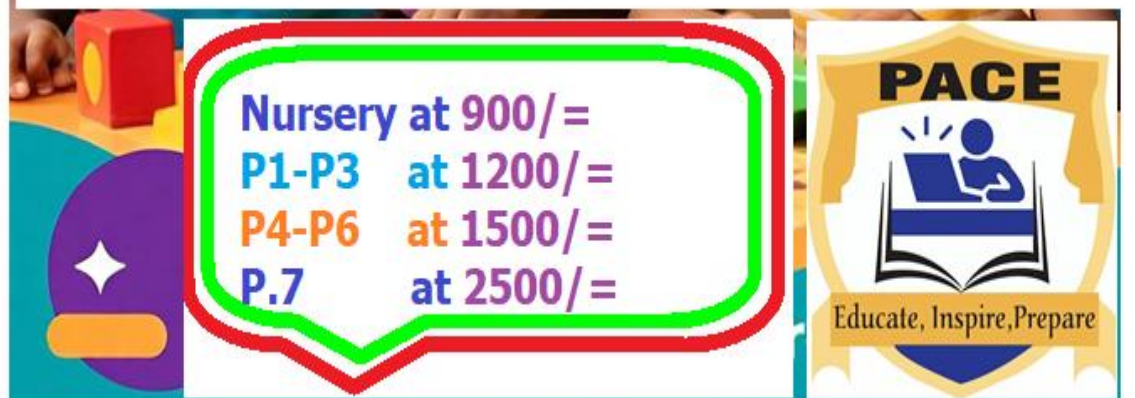
2024

INTEGRATED SCIENCE

Marking Guide



2025 PACE Examinations Board 0754742152/0786616884



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Turn Over

Prepare today, succeed tomorrow

SECTION A: 40MARKS

1. Name any **one** sign of a sick rabbit in a rabbitry.

- **Loss of weight//blood stained diarrhoea//swollen stomach//loss of appetite//difficulty in moving//runny nose// sudden death//wounds on the ears//shivering//a rabbit stops feeding feeding//difficulty in breathing//bending ears//**

✓ Coccidiosis and snuffles cause sudden death among rabbits

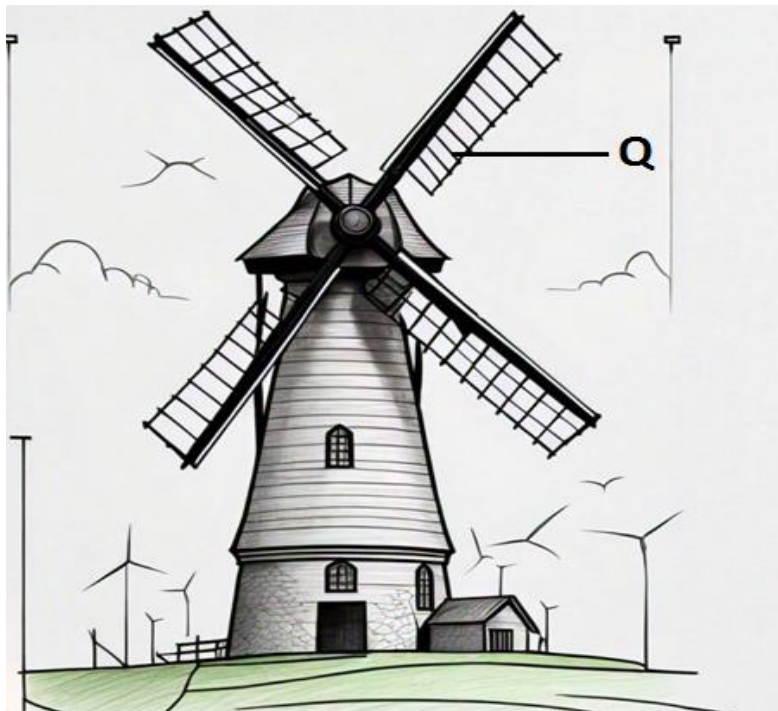
2. How does intercropping improve soil fertility?

- **It involves growing of legumes that add nitrogen into the soil**

3. State any **one** way in which conception is similar to fertilization.

- **Both take place in the oviducts(fallopian tubes)**
- **Both involve fusion of gametes(reproductive cells)**

The diagram below is a device used to harvest wind energy. Study and use it to answer questions that follow.



4. Name the part marked with letter **Q**.

- **Propeller**

5. Mention any **one** way in which the wind energy harvested by the above device is useful in the community.

- **For drawing water from underground**
- **For milling grains// For generating electricity//**

6. Write any **one** component of sugar, salt solutions

- **Salt//Sugar//Safe water//**

The diagram below shows a certain part of a crop. Study and use it to answer questions that follow



7. Name the group of crops to which the crop that produces the above part belong.

➤ **Annual crops**

- ✓ Groups of crops are only two; annual and perennial crops.
- ✓ Types of crops are many including; fruit crops//cereal crops//tuber crops//legumes//root crops//vegetable crops//

8. State any **one** reason to support your answer in 7 above.

- **Its lifecycle lasts for a season/It completes its lifecycle in a year**
- **It grows and matures within a season**
- **It takes less than a year to mature.**

9. Identify any **one** way intestinal worms use to enter into our bodies.

- **Through penetrating our bare feet**
- **Through drinking contaminated water**
- **Through eating contaminated food**
- **Through eating unwashed fruits**
- **Through eating food with dirty hands**

10. How does gap filling control competition between crops and weeds?

- **It reduces the space available for weeds to grow**
- **It increases crop population that outcompetes weeds for nutrients//water//oxygen//carbon dioxide and space.**

11. State any **one** importance of insulators of electricity.

- **They are used to cover the handles of flat irons**
- **They are used to cover electric wires**
- **They protect people from electric shocks**
- **They are used to cover handles of percolators**
- **They are used to prevent short circuits**

12. Write any **one** reason that makes friction a nuisance force.

- **It causes unnecessary noise**

- **It causes unnecessary heat**
- **It wears and tears objects**
- **It delays work// It reduces efficiency of machines//**

✓ However friction is also useful to school children. It enables them to write exams.

✓ Friction is the force that opposes movement of objects.

13. Write **one** difference between heat and temperature.

- **Heat is measured in calories/joules while temperature is measure in degrees**
- **Heat is the form of energy that increases temperature of place or an object while temperature is the degree of hotness or coldness of a place or an object.**

✓ Heat is measured using calorimeters while temperature is measured using thermometers.

14. What is meant by the term first aid?

- **This is the immediate help given to the casualty before being taken to the health care centers.**

✓ First aid is the instant help given to an injured person usually where the injury is slight.

15. State any **one** characteristic of images formed by a pinhole camera.

- **Images are real**
- **Images are inverted // they are diminished.**

✓ Images are real **because** they are formed by actual light rays from an object.

✓ Images are diminished **because;**

- Light rays converge as they pass through the pinhole.
- The image distance is shorter than the object distance from the pinhole.

✓ They are inverted **because** light rays intersect as they travel in a straight light line.

16. Write any **one** characteristic of disease vectors to spreading germs.

- **They feed on blood**
- **They have a hairy body**
- **They have a proboscis for sucking blood**
- **Germs can survive in their abdomen/Do not die in their abdomen**
- **They have ability to carry germs on their hairy bodies**

➤ **They contact dirty substances like faeces.**

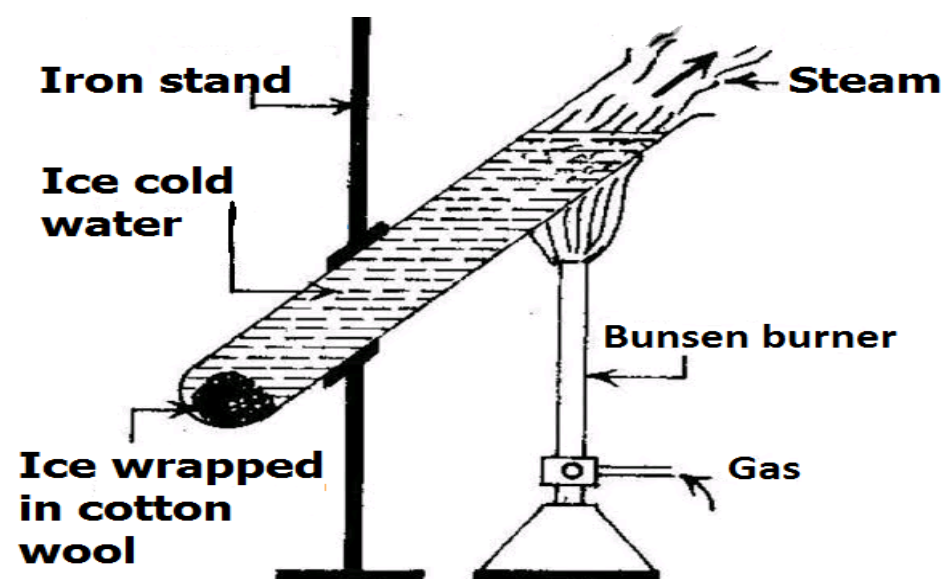
17. In which **one** way are chemical changes useful in our community?

- **Rusting improves soil fertility/Adds iron to the soil/**
- **Rusting reduces metallic scrap in the environment**
- **Decomposition improves soil fertility**
- **Decomposition helps in soil formation**
- **Burning helps in charcoal production**
- **Burning of firewood helps in cooking food**
- **Burning helps in generation of thermal electricity**
- **Burning helps in generation of atomic electricity**
- **Burning of rubbish controls diarrhoeal diseases**
- **Respiration provides energy to organisms**
- **Photosynthesis provides food to plants**
- **Photosynthesis provides oxygen to animals**
- **Digestion provides glucose to the body for respiration**
- **Digestion eases absorption of food into the body.**

18. How can external parasites among pigs be controlled?

- **by spraying using acaricides/ / By intensive grazing**

The diagram below proves a certain property about water; use it to answer questions 19, 20 and 21



19. What does the experiment above prove about water?

- **Water is a poor conductor of heat**

20. Why was ice cubes wrapped in cotton wool as shown above?

- **To keep them sinking at the bottom**
- **To prevent them from floating on water.**

21. State any **one** reason why ice cubes never melted after heating water as shown in the diagram above.
- **Heat did not reach at the bottom of the test-tube**
 - **Water did not convect heat to the bottom of the test tube.**
22. Write **one** example of a change in the states of matter.
- **Freezing//melting//evaporation//condensation//deposition//sublimation//**
23. Write any **one** importance of keeping breeding records on a farm
- **Breeding records help farmers to prepare for the expected new born young ones**
 - **They enable farmers to know the date of birth for young ones**
 - **They enable farmers to know the number of gravid animals**
 - **They enable farmers to know the number of young ones produce every month**
 - **They enable farmers to identify the animals easily on a farm**
 - **They enable farmers to monitor the growth rate of each animal on a farm**
 - **They enable farmers to know the number of weaned young ones on the farm.**
24. In which **one** way are different methods of heat transfer useful in our surrounding?
- **Radiation helps in drying clothes**
 - **Radiation helps in drying harvested crops**
 - **Radiation helps in rain formation**
 - **Radiation helps to roast meat and maize**
 - **Radiation helps to warm people near fire places**
 - **Radiation helps in preserving foodstuffs by sundrying**
 - **Conduction helps in ironing clothes**
 - **Conduction helps in welding metals**
 - **Convection helps to boil water for drinking**
 - **Convection drives smoke out of the kitchen**
 - **Convection drives bad smell away from latrines**
 - **Convection helps to drive stale air out of the living houses**
 - **Convection keeps charcoal stoves and iron boxes burning**

25. Give the meaning of the term soil fertility.

➤ **This is the ability of soil to support proper growth**

26. State any **one** way in which kinetic energy is useful in our daily life.

➤ **It is used in drills for drilling holes in wood**

➤ **It is used in egg beaters to prepare eggs**

➤ **It is used in electric fans to regulate body temperature**

➤ **It is used in driving vehicles**

➤ **It is used in coffee grinders to grind coffee**

➤ **It is used in air conditioners to regulate temperature**

➤ **It is used in windmills to draw water from underground**

➤ **It enables winches to draw soil from underground.**

27. Identify any **one** system of keeping poultry in poultry management.

➤ **Battery system(cage system)**

➤ **Fold system(pen system)**

➤ **Deep litter system**

➤ **Free range system**

28. Apart from being affordable, give any **other** principle of PHC

➤ **Total health for all**

➤ **Total participation for all**

➤ **Health services should be available**

➤ **Health services should be affordable**

➤ **Health services should be accessible**

➤ **Health services should be distributed equally**

➤ **Many approaches should be used in solving health problems**

➤ **Activities should be done according to priorities.**

29. Mention any **one** effect of passive smoking in the community.

➤ **It causes air pollution/ /fire outbreaks in an area**

➤ **It causes loss of community labour**

➤ **It attracts children to copy smoking habits**

Note; to a family, smoking causes spouse abuse, child abuse, family neglect, etc

30. State the kidney disease that results from accumulation of calcium in the body.

➤ **Kidney stones**

31. In which way is volume different from capacity?

- **Volume is measured in cubic units while capacity is measured in liters**
- **Volume is the amount of space occupied by an object while capacity is the amount of liquid a container can hold.**

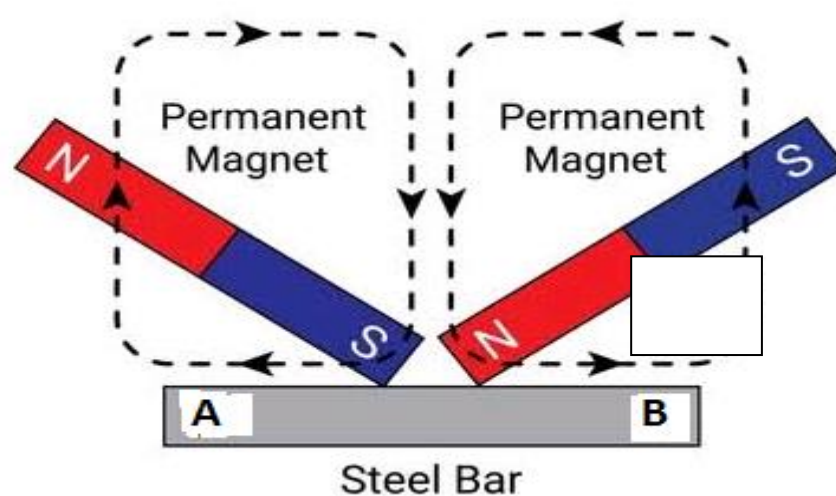
32. Identify the optical instrument used by astronomers to see distant objects clearly.

- **Telescope**

33. Give any **one** condition that leads to swarming of bees.

- **Overcrowding of bees**
- **Direct smoke into the hive**
- **Linkage of the hive/ /lack of water around the hive**
- **Presence of bee enemies/ /bee pests**
- **Too much noise around the hive/ / bad smell/ /**
- **Shortage of food around the hive/ /drought/ /**

Use the diagram showing the method of making magnets to answer 34, and 35



34. Name the pole marked with letter **B**.

- **South pole**

35. Write **one** importance of magnets to electricians.

- **Used for holding electric wires**
- **Used for holding wire cables**

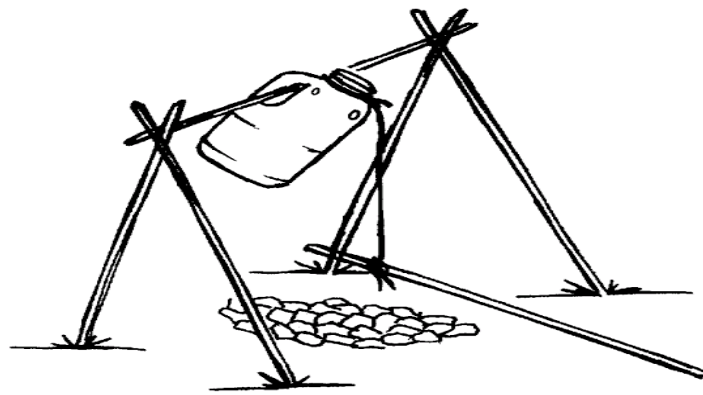
36. Briefly explain how to manage a poultry farm.

- **By carrying out proper housing of poultry**
- **By carrying out proper feeding of poultry**
- **By carrying out proper watering of poultry**
- **By treating sick poultry**
- **By vaccinating poultry**

37. State the artificial family planning method that involves cutting and tying of sperm ducts.

➤ **Vasectomy**

The diagram below shows a foot hand operated facility; use it to answer questions 39 and 40.



38. Name the foot hand operated facility shown in the diagram.

➤ **Tippy tap**

39. In which **one** way is the above equipment useful in the control of diarrhoeal diseases?

➤ **It keeps soapy water for washing hands to remove and kill germs that would cause diarrhoeal diseases.** Note that it also prevents recontamination of hands as its advantage.

40. Mention any **one** immunisable disease that attacks the brain

➤ **Meningitis // Poliomyelitis// Rabies//**

Section B (60MARKS)

41. (a) Give the meaning of the following terms;

(i) Immunity

➤ **Immunity is the ability of the body to fight diseases.**

(ii) Immunization

➤ **Immunization is the introduction of vaccines into the body to cause immunity.**

✓ When the body receives vaccines, it responds by producing antibodies.

The antibodies boost the immunity by fighting disease causing germs

✓ Vaccination is the introduction of vaccines into the body.

✓ Vaccines are medical drugs used to boost body immunity.

(b) Give any **one** reason why polio vaccine is given more than once to people.

➤ **To strength the body's immunity against polio**

➤ **To boost the body's immunity against polio**

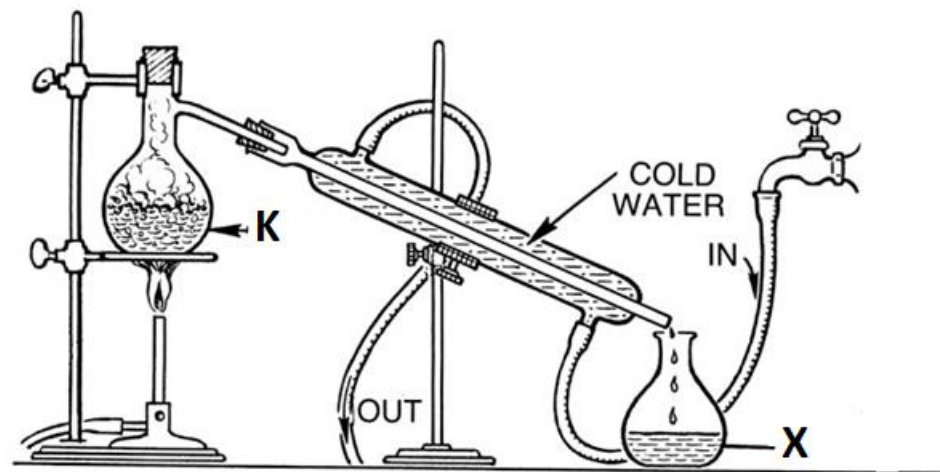
➤ **To ensure a long lasting immune response against polio.**

➤ **Polio is resistant to polio vaccines.**

(c) State the immunization body site for hepatitis B.

➤ **Left upper thigh**

The diagram below shows a method of making alcohol; use it to answer question 42.



42. a) What name is given to the method of making alcohol above?

➤ **Distillation method**

(b) Identify the substances labeled with letters **K** and **X**.

(K) Residues of crude alcohol // crude alcohol (X) Distillate

(c) Of what importance is cold water during the alcohol production in the above method?

➤ **Cold water condenses the alcohol vapour**

✓ Some delivery tubes are **coiled** in cold water to increase surface area for condensation of alcohol vapour.

43. a) Give any **one** example of devices that uses the following

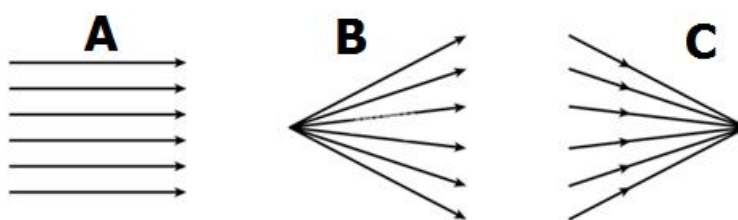
(i) Divergent beam.

➤ **Torches // car headlamps // lens cameras //**

(ii) Parallel beam.

➤ **Collimators // telescopes // lasers //**

Study the types of beams below to answer questions that follow



b) Name the beam marked with letter **C**

➤ **Convergent beam.**

c) How is the type of beam marked with letter **A** and **B** different?

➤ **A has light rays that do not intersect or meet while B has light rays that spread from one to different directions.**

44. a) Give any **two** permanent teeth characterized with broad surfaces with cusps and ridges for chewing food.

- **Molars**
- **Premolars**

(b) State any **two** components of the teeth structure in man.

- **Enamel //root //dentine//**
- **Crown //neck //pulp cavity//**

45. (a) Give any **one** importance of rain clouds to crop farmers.

- **Provide rainwater to crop farmers**

(b) Write down **one** effect of clouds in the environment.

- **They cool the temperature in the environment**
- **Some clouds cause lightning in the environment**
- **Clouds lower transpiration in the environment**
- **Clouds reduce heat and light intensity // block sunlight**
- **Clouds increase humidity in the environment**
- **Clouds reduce evaporation in the environment**

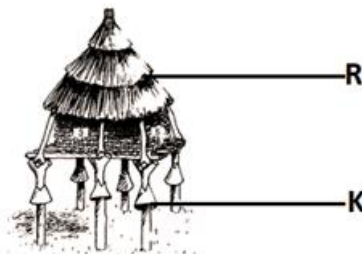
(c) Which type of clouds are a clear sign of fair weather?

- **Cirrus clouds//Stratus clouds**

(d) Mention any **one** danger of too much rainfall to crops.

- **Too much rainfall erodes the crops**
- **Too much rainfall causes floods that destroy crops**
- **It leads to rotting of tuber crops**
- **It leads to rotting of crop roots**

Below is a method showing a simple food store, use it to answer questions that follow.



46. a) Name the type of food store shown in the above diagram

- **A granary**

c) Write **one** adaptation of part marked K to preventing rats from entering the food store above.

- **It is slippery // it is corn shaped //**

(c) State any **two** advantages of using silos over granaries.

- **Silos lasts longer compared to granaries**
- **Silos provide more protection to stored crops than granaries**
- **Silos stores more crops than granaries**
- **Silos need small space to store large amounts of crops than granaries**

47. a) State the reason why some animals are said to be non-vertebrates.

➤ **They lack a back bone// spine// vertebral column//**

b) Write any **two** characteristics that differentiate between arthropods and mollusks.

➤ **Arthropods have jointed legs** while **molluscs do not have legs**

➤ **Arthropods have segmented bodies** while **molluscs have unsegmented bodies**

➤ **Arthropods do not have tentacles** while **molluscs have tentacles**

➤ **Arthropods have exoskeleton** while **molluscs have hydrostatic skeleton**

c) Mention any **one** group of invertebrates with a mantle

➤ **Molluscs// mollusks//**

48. Mention any **one** use of echoes to the following mammals;

(i) Sea mammals

➤ **Use echoes to dodge obstacles**

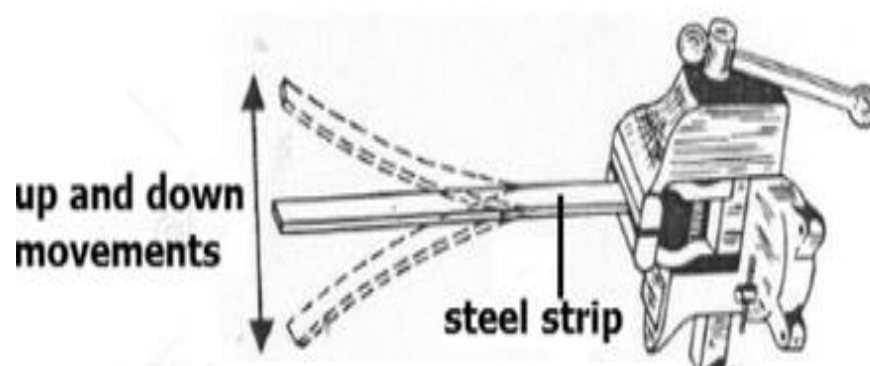
➤ **Use echoes to locate food while in water**

(ii) Flying mammals

➤ **Use echoes to locate food**

➤ **Use echoes to dodge obstacles while in air**

Study the musical instrument below to answers questions that follow correctly



(b) What name is given to the up and down movements shown in the diagram above?

➤ **Vibrations**

(c) State the result of up and down movements made per second

➤ **Sound**

49. In **four** sentences, describe how to recover the salt mixed with sand by evaporation to dryness.

(i) **Put the mixture of salt and sand in a container**

(ii) **Add water to the mixture and stir to dissolve the salt**

(iii) **Filter the mixture to obtain the filtrate**

(iv) **Boil the solution to dryness in order to get salt crystals**

50(a) State any **two** body changes that develops under puberty.

- **Growth of pubic hair**
- **Growth of air under armpits**
- **Growth of beards**
- **Growth of breasts**
- **Development and enlargement of hips**
- **Sweat glands become more active**
- **Production of sperms**
- **Enlargement of the penis, testacles, scrotum and uterus**
- **Menstruation begins**
- **Ovulation //moving in groups//admiring members of opposite sex.**

✓ Puberty involves three stages/phases because it means being able to reproduce or being sexually mature.

✓ Once one gains puberty, it cannot get lost until menopause.

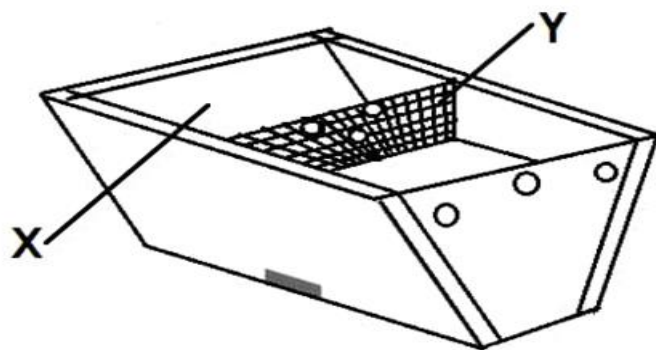
b) State any **one** way in secondary sex characteristics are important in the environment.

- **They cause attraction between mates**
- **They create a difference between males and females**
- **They show the sex of an individual**
- **They aid in determining the age of different individuals in the environment**

c) State one way of caring for the reproductive system

- **Washing genital parts with clean water daily**
- **Always shave the pubic hair**
- **Always put on clean dry pants//under wears**
- **Abstaining from premarital sex**
- **Avoid putting on tight under wears**
- **Avoid spraying perfumes on genital parts**

Below is a diagram of type of beehives, use it to answer questions that follow.



51 a) Name the modern beehive shown in the diagram.

- **Top bar hive**

✓ All modern beehives have a wire mesh.

b) Identify the part marked with letter **X**.

- **Honey chamber**

c) State the adaptation of part marked with letter **Y** its function.

➤ **It has small holes to only allow worker bees to pass into the honey chamber**

(d) Give any **one** way honeybees regulate temperature in the above hive.

➤ **By continuous flapping of their wings**

52 a) State the meaning of the term artificial brooding.

➤ **This is the giving of special care to chicks below eight weeks**

b) Identify any **one** instrument used to carry out artificial brooding

➤ **Brooders**

✓ A brooder is a special structure where chicks below eight weeks are cared for.

✓ There are many types of brooders such as

❖ Charcoal brooders//infra-red brooders//gas brooders//

c) State any **two** advantages of artificial brooding on a poultry farm

➤ **Provides chicks with enough warmth**

➤ **Provides chicks with enough light**

➤ **Protects chicks from harsh weather conditions**

➤ **Protects chicks from thieves**

➤ **Protects chicks from predators**

➤ **Protects chicks from being attacked by diseases easily**

➤ **Chicks get enough feeds for proper growth**

➤ **Chicks are kept in a clean environment**

✓ Artificial brooding also has some disadvantages such as;

❖ It is expensive to maintain

❖ It can spread diseases among chicks easily

❖ It is so tiring to care for many chicks in small space

53. Complete the table below.

Part of human eye	Part of lens camera
Iris	Diaphragm.
Ciliary muscle	Focusing ring
Retina	Film
Pupil	Aperture

54 (a) Briefly explain the following terms;

(i) Lunar eclipse.

➤ **This is an eclipse where the earth comes in between the sun and the moon.**

Formular ; **SEML**. Sam Entered My Latrine (Lunar eclipse)

(ii) Solar eclipse

- **This is an eclipse where the moon comes in between the sun and the earth**

Formular ; SMES. Some Men Eat Snakes (Solar eclipse)

(b) Give any **two** common importance of shadows.

- **They determine time**
- **They determine direction of places**
- **They provide shade to people// protect people from direct sunlight**

✓ A shadow is a dark region formed due to obstruction of light rays by opaque objects.

✓ Umbra shadow is formed by a small source of light while penumbra is formed by a big source of light.

55. (a) In which **one** way have wedges contributed to environment degradation?

- **Pangas have been used for cutting down small trees**
- **Axes have been used for cutting down big trees**
- **Pangas have been used for clearing swamp vegetation.**

(b) Write any **one** example of a double inclined plane commonly used by people to degrade the environment.

- **Pangas //axes//machete //slashers//hoes//**

(c) Write any **two** ways of keeping the efficiency of wedges.

- **By keeping them sharp**
- **By keeping them in cool and dry places**
- **By painting them**
- **By galvanizing them**
- **By enameling them**

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