



# 2024

## SUREKEY EXAMINATIONS BOARD

### INTEGRATED SCIENCE

### SPECIAL MOCK

### OFFICIAL MARKING GUIDE

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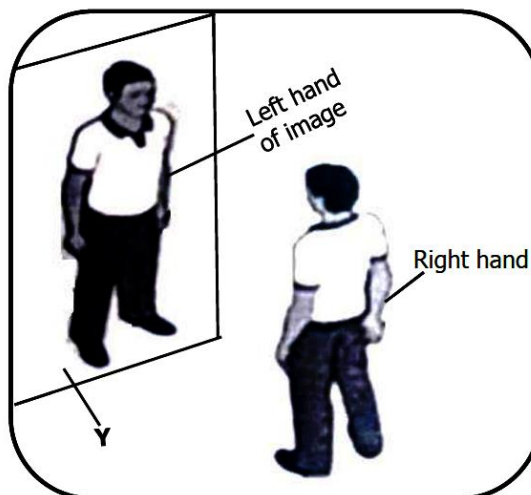
#### SECTION A: 40 MARKS

Questions **1** to **40** carry one mark each

1. Name the material used to control excessive bleeding at the cut when giving first aid.
  - **Tourniquet (Reject cotton wool, bandage, gauze)**
2. State any **one** sign to show that a hen is suffering from coccidiosis.
  - **Diarrhoea//ruffled feathers//blood-stained droppings//dullness and drooping wings (reject dropping wings)**
3. Give any **one** way in which you can identify a pigeon from a whale as vertebrates.
  - **A pigeon has lays eggs while a whale produces live young ones.**
  - **A pigeon has no mammary glands while a whale has mammary glands.**
  - **A pigeon is a bird while a whale is a mammal.**
4. State any **one** method that can be used to conserve heat energy at home.
  - **Using a vacuum flask//using food flasks//using energy saving stoves**
  - **Covering saucepans when cooking//using heat exchangers.**

5. In which **one** way are villi important in the ileum during food absorption?  
➤ **Villi increase the surface area for food absorption.**
6. Write down any **one** disease that can be controlled among school children by wearing properly ironed uniforms.  
➤ **Scabies//ringworm infection**
7. Name any **one** component of the environment that helps to add water vapour to the atmosphere during the formation of nimbus clouds.  
➤ **Water body//plants (accept specific water bodies like lake, river, dam, ocean, sea, and plants like trees, grass)//dew**
8. Name the blood cells that produce antibodies against germs in the human body. **White blood cells/leucocytes**

The diagram below shows a man viewing his image in a mirror. Study and use it to answer questions **9** and **10**



9. Name the type of mirror marked **Y**.  
➤ **Plane mirror**
10. What property of light enables the man to see his image through the mirror marked **Y**?  
➤ **reflection of light/light can be reflected**
11. Give any **one** way in which force of gravity is applied in our daily life.  
➤ **It helps in drawing water from boreholes and taps**  
➤ **It helps in picking fruits from trees**  
➤ **It helps people to receive rain from nimbus clouds**  
➤ **It helps to bring back the kicked ball to the ground.**
12. State any **one** way in which you can tell that the child has protein deficiency in the body.  

➤ <b>Swollen moon-like face.</b> ➤ <b>Stunted growth.</b> ➤ <b>Swollen belly.</b>	➤ <b>Swollen hands and feet.</b> ➤ <b>The hair turns reddish-brown</b> ➤ <b>Fluids in joints.</b>
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13. Give any **one** reason why farmers construct the goat sheds with a slanting floor
  - **For easy drainage of urine**
  - **For easy cleaning**
  - **For easy flow of dropping to the ground.**
14. State any **one** rule which must be followed when carrying out Primary Health Care (PHC).
  - **Full community participation.**
  - **Total health for all**
  - **Social acceptability**
  - **Affordability of health services**
  - **Equal care for everyone**
  - **Equitable health services**
15. State any **one** factor considered when classifying the type of metamorphosis in insects.
  - **The structure of the larva or nymph and the adult**
  - **Feeding mouth parts of an insect. (*Reject: number of the stages*)**
16. Give any **one** reason why pregnant women usually go for ante-natal care.
  - **To check on the foetal growth and position.**
  - **To get tetanus toxoid (T.T vaccine)**
  - **To get advice on personal hygiene.**
  - **To test for HIV status.**

The diagram below shows a symbol commonly used in the management of wastes in an area. Use it to answer questions **17**.



17. State the significance of the symbol above in the management of wastes in an area.
  - **It promotes recycling of wastes// enables people to keep the environment clean.**
18. Name any **one** substance that is reabsorbed by the medulla from urine.
  - **Glucose//water//vitamins//salts**
19. Which chemical substance is released in the atmosphere during tobacco smoking by an active smoker?
  - **Carbon monoxide**

20. Give any **one** way in which rainfall is useful for plant growth.
- **It helps in photosynthesis.**
  - **It helps to dissolve mineral salts for roots to absorb.**
  - **Provides water for seed germination.**
  - **Softens the soil for roots to penetrate.**
21. Give any **one** way in which you can produce static electricity in the classroom during an Integrated Science lesson.
- **Rubbing plastic pen/ruler against hair.**
  - **Rubbing plastic comb against hair.**
  - **Rubbing balloon in hair.**
  - **Rubbing a plastic ruler against woolen cloth**
22. State any **one** way in which adolescent girls care for their bodies during menstruation periods.
- **Regular bathing//putting on clean knickers//wearing sanitary pads**
  - **Feeding on food rich in iron.**
23. State the reason why woolen clothes should be dried without wringing.
- **To maintain the quality of wool.**
  - **To prevent damage of wool.**
24. Give any **one** vector that has two main body divisions and four pairs of jointed legs.
- **tick//mite**
25. State any **one** way in which the immunity of an individual can be boosted.
- **Feeding on a balanced diet.**
  - **Taking breast milk.**
  - **Through immunization.**
  - **Limiting added sugars in tea or juice.**
  - **Engaging in moderate exercises.**
  - **Staying hydrated.**
26. Mention any **one** activity carried out under child to child programme at school.
- **Teaching young children good toilet habits.**
  - **Teaching young children how to bathe**
  - **Teaching young children how to wash knickers and pants**
  - **Teaching adolescents body changes during growth.**
  - **Guidance and counselling fellow children.**
  - **Caring for the sick children.**
27. In which way can a person lower the pitch of sound produced by a guitar?
- **Loosening the strings//making the strings longer//reducing the tension of the strings.**

28. State any **one** reason why the rabbit hutch should be raised above the ground.
- **To prevent dampness on the floor.**
  - **To protect rabbits from wild animals.**
  - **To prevent flowing water from entering the hutch.**
29. Mention any **one** substance that the human body uses to produce energy.
- **Oxygen//food/digested food/glucose**
30. Give any **one** way in which fungi are different from bacteria.
- **Most fungi have many cells while all bacteria have one cell.**
  - **Fungi breed slowly while bacteria breed faster.**
  - **Fungi reproduce by cell budding or means of spores while bacteria reproduce by binary fission.**
  - **Most fungi can be seen using our naked eyes while all bacteria are microscopic.**
  - **No fungi make their own food while some bacteria make their own food.**

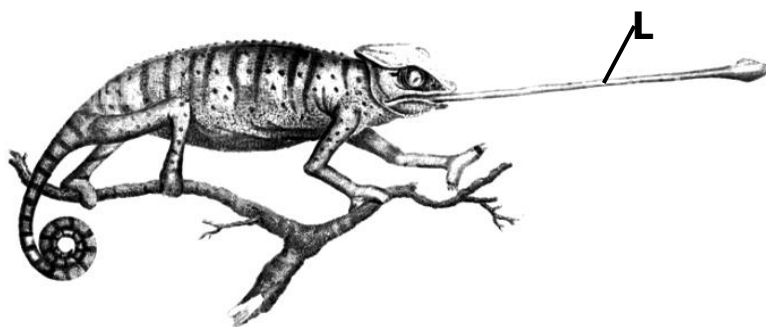
The diagram below shows a property of matter. Use it to answer questions **31** and **32**.



31. Why does water overflow the cup as shown in the diagram above?
- **All the space inside the glass has already been occupied.**
  - **There is no space in the glass for more water to occupy.**
32. State the property of matter shown in the diagram.
- **Matter occupies space.**
33. State any **one** way in which a cesspool emptier is important in the promotion of sanitation in the community.
- **It helps in proper disposal of sewage.**
  - **It helps in emptying septic tanks and latrines when full.**
  - **It controls the movement of houseflies.**
34. State any **one** factor that determines the strength of an induced magnet.
- **The strength of the magnet used.**
  - **The nature of the material used.**
  - **The number of permanent magnets used.**

35. Apart from burning, give any **one** other example of a chemical change that requires oxygen to take place.
- **Rusting//respiration**
36. Write down any **one** plant that has compound leaves.
- **Bean plants//pea plants//soya bean plants//ground nut plants//jacaranda//acacia**

Use the diagram of the animal below to answer questions **37** and **38**.



37. Identify the class of vertebrates to which the above animal belongs.
- **Reptiles/reptilia (reject cold blooded vertebrates)**
38. How does part marked **L** help to promote the health of the animal above?
- **For feeding/for trapping its prey**
39. Name any **one** method that can be used to separate the mixture of liquids and insoluble substances.
- **Filtration//decantation//distillation//using a separating funnel.**
40. Give any **one** reason why a person making charcoal covers the logs of wood with soil.
- **To limit the supply of oxygen to the burning wood.**
  - **To prevent heat loss/to conserve heat.**

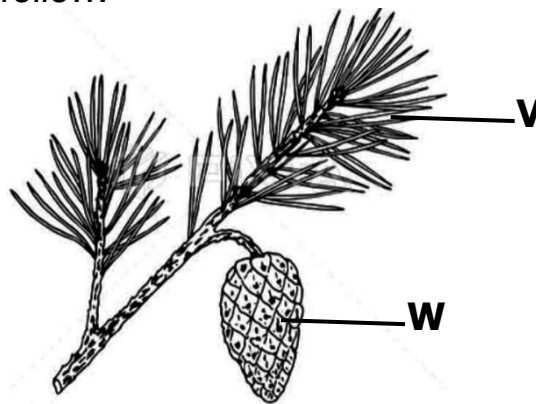
### **SECTION B: 60 MARKS**

Questions **41** to **55** carry four marks each

41. (a) Write any **two** ways in which a bee keeper can stock the hive.
- **Using a swarm catching net/bee-trapper**
  - **Using baits**
  - **Using a catcher box.**
- (b) State any **two** ways in which a bee keeping business is important to a bee keeper.
- **Creates employment to people.**
  - **Wax candles from bees-wax are sold for money.**
  - **Bee propolis is used for making plastics.**
  - **Bees provide honey for sale.**
  - **Bees are sold for money.**

42. (a) Give the meaning of the following terms;
- (i) An invalid: **An invalid is a patient who is very ill.**
  - (ii) A convalescent: **A convalescent is a patient who is undergoing treatment or medication and is recovering from an illness.**
- (b) State any **two** reasons why health workers discourage mothers from feeding their babies using bottles.
- **Animal's milk does not contain a complete diet.**
  - **Animal's milk does not provide immunity to the baby**
  - **Animal's milk is hard to digest.**
  - **Bottles can easily get contaminated.**

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



- (a) Name the part of the pine tree marked **V**.
    - **Needle//needle-shaped leaves (reject leaves)**
  - (b) State the reproductive function of part marked **W** to a pine plant.
    - **Stores seeds**
  - (c) Apart from the pine plant, give any **two** other plants that has part marked **W**.
    - **pine//cedar//cypress//podo//cycads//fir**
44. Lilian kept porridge in a vacuum flask when it was at a temperature of 90°C. After 6 hours, the temperature of the porridge had decreased by 50°C.
- (a) What was the temperature of the porridge after 6 hours?
 

**90°C - 50°C = 40°C**
  - (b) State any **one** factor that could have caused the drop in the temperature of the porridge in the vacuum flask.
    - **Broken vacuum seal//cracks on double glass wall//loose cork**
    - **Cracked cork//half-filled liquids in the glass.**

- (c) Change the temperature of the porridge given in (a) above to Fahrenheit scale. (02 Marks)

$$^{\circ}\text{F} = (9/5 \times ^{\circ}\text{C}) + 32$$

$$^{\circ}\text{F} = (9/5 \times 40) + 32$$

$$^{\circ}\text{F} = (9 \times 8) + 32$$

$$^{\circ}\text{F} = 72 + 32$$

$$^{\circ}\text{F} = 104$$

45. (a) Give any **one** example of a mollusc that lives both in water and on land.  
➤ **Snails//slugs**
- (b) State any **two** ways in which you can identify molluscs in the environment.  
➤ **They have soft unsegmented bodies.**  
➤ **They have a hard shell or mantle.**  
➤ **They have hydrostatic skeleton.**  
➤ **They have tentacles.**
- (c) Mention any **one** way in which people benefit from molluscs.  
➤ **They are eaten by some people.**  
➤ **They provide shells for making ornaments.**  
➤ **Their shells are used to make poultry feeds.**
46. The diagram below shows a method of harvesting tuber crops. Study and use it to answer the questions that follow.



- (a) Identify the method of harvesting tuber crops shown above.  
➤ **Digging out/digging**
- (b) State any **one** disadvantage of using the method above to tuber crops.  
➤ **Tubers are easily damaged.**                      ➤ **Causes rotting of tubers.**  
➤ **Damaged tubers reduce yields.**
- (c) Write down any **two** tuber crops that can be harvested using the method shown above.  
➤ **cassava//sweet potatoes//irish potatoes//carrots//**



➤ **white yams//turnips//beetroots//radishes**

47. Name the human body organ that;

- (a) stores bile juice: **gall bladder**
- (b) removes lactic acid from the body: **the skin/the human skin/skin**
- (c) adds oxygen in the body: **lungs/lung**
- (d) releases mature ova: **ovary/ovaries**

48. (a) Name the germ that causes bilharziasis in humans.

➤ **Blood flukes/schistosome**

(b) Mention any **two** signs of bilharziasis in humans.

➤ **Blood-stained urine//difficulty in urination//fever//**

➤ **pain in the lower belly.**

(c) State any **one** way in which the spread of bilharziasis can be controlled among humans.

➤ **Drink boiled water.**

➤ **Proper disposal of human wastes**

➤ **Avoid swimming in dirty water bodies.**

49. (a) Name the part of the human ear that changes;

(i) sound waves into vibrations:

➤ **eardrum//tympanum/tympanic membrane**

(ii) vibration into impulses:

➤ **cochlea**

(b) Which defect of the ear is caused by too much wax in the auditory canal?

➤ **Partial deafness**

(c) State any **one** way of preventing the defects of the human ear.

➤ **Removing excess wax from the ear canal.**

➤ **Syringing the ear using warm water.**

➤ **Clean the ears using a soft material.**

➤ **Going for regular medical checkups.**

➤ **Listen to sound at a low volume.**

50. The table below shows methods of applying fertilizers in part **A** and their way of application in part **B**.

<b>Part A:</b> Method of Applying fertilizers	<b>Part B:</b> Application
Broadcasting	Fertilizers are placed in a ring around the plant
Spraying	Fertilizers are put into the planting holes
Placement	Fertilizers are spread all over the soil
Top dressing	Liquid fertilizers are sprinkled onto the soil

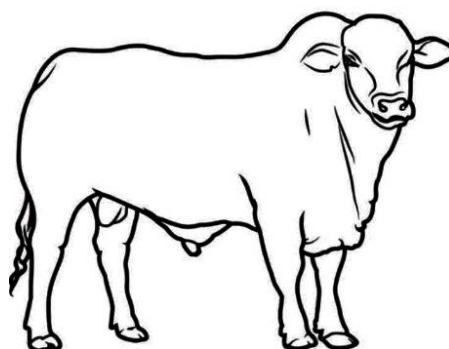
Match correctly the methods of applying fertilizers with their application in the space provided below.

- (i) Broadcasting: **Fertilisers are spread all over the soil.**
- (ii) Spraying : **Liquid fertilisers are sprinkled onto the soil.**
- (iii) Placement: **Fertilisers are put into the planting holes.**
- (iv) Top dressing: **Fertilisers are placed in a ring around the plant.**
51. (a) Mention any **two** causes of truancy among school children.
- **Harsh teachers**
  - **Bullying**
  - **Teasing by fellow pupils**
  - **Poor teaching methods of some teachers.**
  - **Learning difficulties**
  - **Corporal punishments by teachers.**
- (b) Apart from truancy, state any **two** other forms of anti-social behaviour commonly practised by school children.
- **Bullying//stealing//fighting//wandering//deception**
52. The diagrams below show types of cattle. Study and use it to answer the questions that follow.

**J**



**K**



- (a) Name the types of cattle marked **K** and **J**.
  - (i) **J** : **dairy cattle**
  - (ii) **K** : **beef cattle**
- (b) Give **one** reason why the purpose of keeping the type of cattle marked **K** is similar to the one of keeping Light Sussex in poultry management.
  - **Both are kept for meat production.**
- (c) State any **one** physical difference between the type of cattle marked **K** and the one marked **J**.
  - **The type of cattle marked K has small udder and teats while the one marked J has big udder and teats.**
  - **The type of cattle marked K has rectangular shape while the one marked J has a triangular shape.**
  - **The type of cattle marked K has short legs while the one marked J has long legs.**

53. (a) Give any **two** causes of choking to an individual.
- **Swallowing big lumps of food;**
  - **Eating while laughing/talking/singing**
  - **Eating hurriedly.**
- (b) State any **one** way in which choking affects a person.
- **Leads to death**                      ➤ **It damages the throat.**
- (c) Write down any **one** activity that you can carry out at home to help your sibling who has been choked while eating meat.
- **Press the belly with strong upward push.**
  - **Give several blows on his/her back.**
  - **Hold the baby's legs upside down and swing it.**

54. You are provided with the following materials;

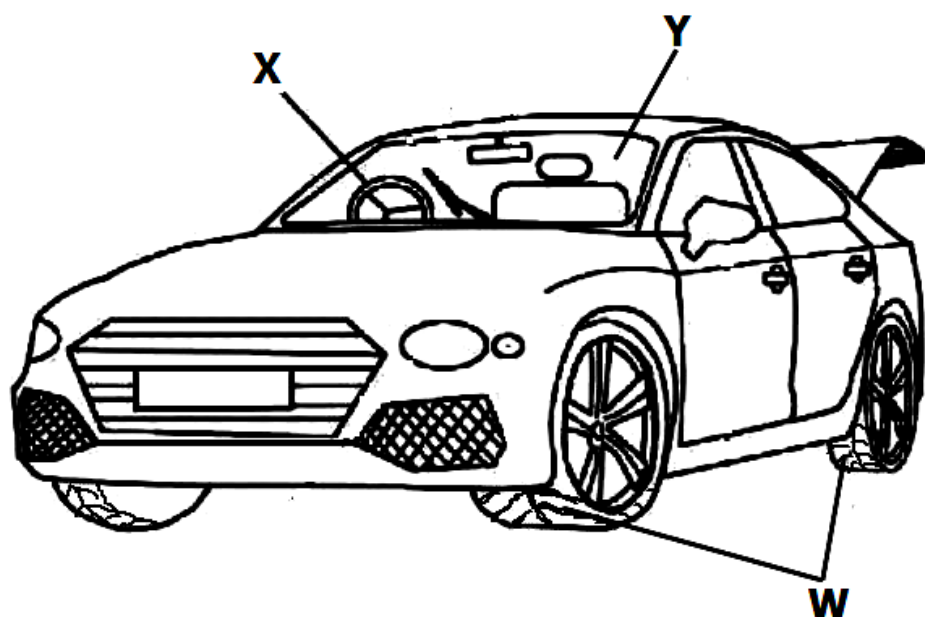
**Half kg of maize flour, water, a mingling stick and a saucepan.**

After putting water in a saucepan and boiling it, write **four** other steps you will take to prepare posho at home.

- (i) **Gradually add maize flour to the boiling water while stirring continuously to avoid lumps.**
- (ii) **Reduce the heat and keep stirring until the mixture thickens.**
- (iii) **Cover the saucepan and let it simmer on low heat for about 10-15 minutes, stirring occasionally.**
- (iv) **Remove the posho from heat and let it sit covered for a few minutes before serving.**

**(Note that there are different ways in which posho can be prepared, therefore, mark using common sense)**

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



- (a) Identify the group of simple machines to which part marked **X** belongs.
  - **Wheels and axles**
- (b) Give **one** way in which structures marked **W** help to increase friction on the car tyre.
  - **They increase the grip between the car tyre and the road surface**
- (c) State any **one** way in which the material used to make part of the car marked **Y** is similar to the one used to make the glass envelope of an electric bulb.
  - **Both are made from transparent materials**
  - **Both are transparent**
- (d) State any **one** way in which part marked **X** helps to make the driving of the car easier.
  - **It reduces the effort needed to turn the car.**

**END**