

# THE E-LEARN EXAMINATIONS BOARD

PRE NATIONAL MOCK 2024

SET THREE / FOUR

INTEGRATED SCIENCE GUIDE

Time Allowed: 2 hours 15 minutes



Index No.	EMIS No.					Personal No.		

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**TR. TWEHEYO SAMUEL** (Author common mistakes in science)

Read the following instructions carefully:

1. Do not forget to write your **school** or **district name** on the paper.
2. This paper has two sections: **A** and **B**.  
Section **A** has **40** questions and section **B** has **15** questions. The paper has **10** printed pages altogether.
3. Answer **all** questions. **All** working for both sections **A** and **B** must be shown in the spaces provided.
4. **All** answers **must** be written using a **blue** or **black** ball point pen or ink. Any work written in pencil will **not** be marked.
5. Unnecessary **changes** in your work and handwriting that cannot be read easily may lead to **loss of marks**.
6. Do not fill anything in the table indicated: **"For Examiners' use only"** and boxes inside the question paper.

FOR EXAMINERS' USE ONLY		
Qn. No.	MARKS	EXR'S NO.
1 – 10		
11 – 20		
21 – 30		
31 – 40		
41 – 43		
44 – 46		
47 – 49		
50 – 52		
53 – 55		
TOTAL		

## SECTION A: 40 MARKS

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

1. Name the type of roots possessed by onions.

✓ **Adventitious roots**

2. Give one reason why farmers prefer Keeping rabbits to ther animals.

✓ **Rabbits need less care than other animals.**

✓ **Rabbits need small space than other animals.**

✓ **Rabbits mature faster than other animals.**

3. How does smoking of tobacco lead to heart attack?

✓ **Tobacco contains nicotine which narrows blood vessels leading to heart attack.**

4. Write any one way premarital sex is dangerous to adolescents.

✓ **It leads to teenage pregnancy/sexually transmitted infections/Rejection from parents.**

5. State the use of water found in the toilet bowl of a water closet.

✓ **It prevents bad smell from coming out of the septic tank.**

✓ **It prevents houseflies from going into the septic tank.**

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



6. Why is liquid Marked O used in the above thermometer?

✓ **Liquid O can be easily seen/Expands uniformly/Does not wet glass tube/it is a good conductor of heat.**

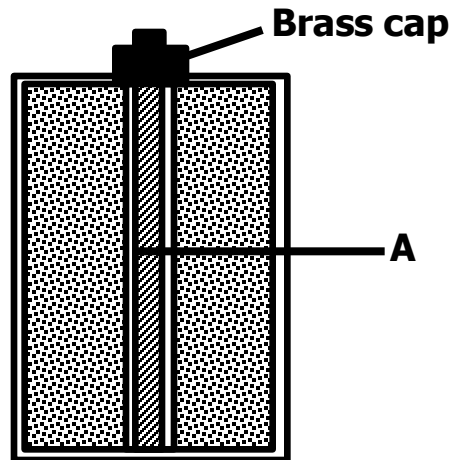
7. Of what importance is part marked K

✓ **It allows expansion and contraction of mercury.**

8. State the Importance of hydrochloric acid in the process of digestion of proteins.
- ✓ **Hydrochloric acid provides acidic conditions for rennin and pepsin to work.**
9. Why is it advisable to put a solid object in the mouth of a person who has convulsions?
- ✓ **To prevent the victim from biting the tongue.**
10. How useful is a burdizzo in the management of calves on a farm?
- ✓ **A burdizzo helps in castration/It helps in closed castration**
11. Name the instrument that is used to measure the density of liquids.
- ✓ **Hydrometer**
12. To which group of musical instruments does a saxophone belong?
- ✓ **Wind musical instruments.**
13. Write any one characteristic feature of a tuber crop pest.
- ✓ **They have sharp incisors used to gnaw tubers**
  - ✓ **Some have sharp claws for digging out tubers in soil**
  - ✓ **Some have fingers used to uproot tubers**
  - ✓ **Some have ability to bore into the tubers**
14. How is sanitation important in our school community?
- ✓ **Sanitation prevents diarrheal diseases/Sanitation prevents water borne diseases/Sanitation controls vectors in an area/Sanitation controls accidents like snake bites.**
15. State any one way breast feeding can be of a disadvantage to a mother.
- ✓ **Frequent breast feeding weakens the mother**
  - ✓ **It may lead to injuries on breast nipples**
  - ✓ **It may not benefit working class mothers**
16. Give any one reason given by patients who take more drugs than the prescribed ones.

- ✓ **Some patients take more drugs due to too much pain/Ignorance/Much fear of the disease/Sweetness of the drug.**

The diagram below shows parts of a dry cell. Study and use it to answer questions 17 and 18.



17. Name part marked A
- ✓ **Carbon rod**
18. Why are dry cells just thrown away when they are no longer in use?
- ✓ **Dry cells cannot be recharged.**
19. Which deficiency disease affects the human Skeleton?
- ✓ **Rickets/Scurvy**
20. Mention any one reason why dentures are put in the mouth.
- ✓ **Dentures replace missing teeth /Brings back facial structure/Clears speech/Restores chewing ability.**
21. Why is a mushroom regarded as a saprophyte in the environment?
- ✓ **A mushroom feeds on decaying matter.**

The diagram below are plants. Study and use them to answer questions that follow.



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22. Which group of plants do we find the above plants?  
✓ **Non flowering plants**
23. How is structure marked **S** important to the above plant?  
✓ **It produces spores/ it stores spores**
24. Give the importance of providing a shade to seedlings in a nursery bed.  
✓ **A shade reduces the rate of transpiration/Protects seedlings against bad weather**
25. State the difference between work and force in terms of their units.  
✓ **Work is measured in joules (J) while force is measured in Newtons (N)**
26. Why is distilled water not suitable for human Consumption?  
✓ **Distilled water lacks mineral salts.**
27. Mention any one harmful practice to Cattle in the abattoir.  
✓ **Banging the head/Gas stunning/Electrocution**
28. Give one reason why farmers plant their seeds in wet season.  
✓ **There is enough water in the soil for seed germination**
29. What is the use of bacteria when making Yoghurt?  
✓ **Bacteria helps in fermenting milk/Fermentation of milk**
30. State the reason of burying a biogas digester during construction.  
✓ **It helps to control temperature inside the digester/Provides room for anaerobic decomposition.**
31. Write any one similarity between a spider and a mite.  
✓ **Both are invertebrates/Arachnids/Both have exoskeleton/Have two main body parts.**
32. How does a cork of a vacuum flask able to prevent heat loss by conduction?  
✓ **A cork is an insulator of heat.**
33. Give any one reason why weaning of babies is done at six months.

- ✓ **To provide iron in the body/It helps to supplement the breast milk/It helps to prevent deficiency diseases.**

34. Why is it bad to apply grease on brake pads of a bicycle?

- ✓ **It reduces friction/It makes braking of the bicycle difficult**

35. State the Importance of lungs during blood circulation.

- ✓ **Lungs oxygenate blood**
- ✓ **Lungs remove carbon dioxide in blood**

The diagram below shows the method of making manure. Study and use it to answer questions 36 and 37.



36. Name the type of manure, being made by the farmer above.

- ✓ **Compost manure**

37. Why is it important to add ash in the materials shown above?

- ✓ **Ash improves on nutrient content.**
- ✓ **Ash adds mineral salts in the compost manure.**

38. How is respiration similar to burning?

- ✓ **Both need oxygen to take place/Both are chemical changes/Both give out heat.**

39. Which child hood immunisable disease has the following signs, chronic cough, a lot of sweating at night and Loss of weight?

- ✓ **Tuberculosis**

40. Write any one advantage of using a modern bee hive in agriculture.

- ✓ **Clean honey is harvested/It is easy to inspect bees/It is long lasting (durable)**

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

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

41. (a) Give any two characteristics of legumes.

- ✓ **Legumes bear seeds in pods**
- ✓ **Legumes have root nodules**

(b) Name any one example of a legume

- ✓ **Bean plant/pig bean plant/Ground nut/Pea plant/Soya bean**

(c) Why is it important to include Legumes in crop rotation?

- ✓ **Legumes help to improve on soil fertility by fixing nitrates in the soil**

42. (a) Mention any one use of Kerosene in our homes.

- ✓ **It is used for cooking/Lighting**

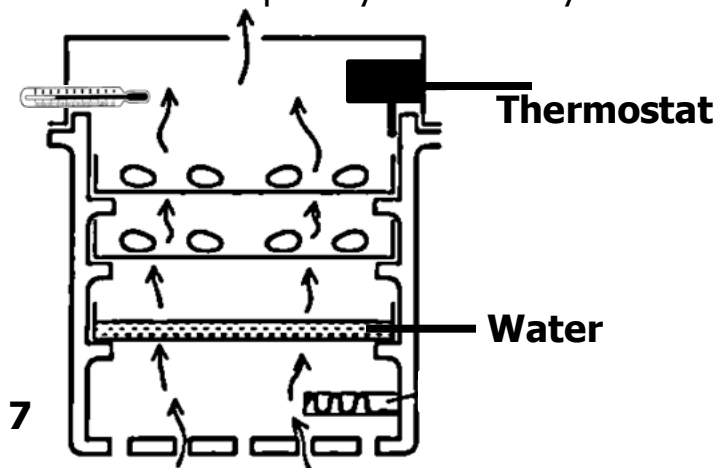
(b) Write down two ways of conserving non- renewable resources in our environment.

- ✓ **Recycling metal scraps/Alloying metals/painting metals to prevent rusting/Using mineral resources sparingly.**

(c) Name the method of separating Products from petroleum.

- ✓ **Fractional distillation**

43. The diagram below shows an equipment found on a poultry farm. Study and use it to answer questions that follow:



a) Name the above equipment used on a poultry farm.

✓ **Incubator**

b) Give the function of the following items in the equipment

i) Thermostat: **Regulate temperature**

ii) Water: **Provide moisture to eggs**

c) Write down any one advantage of using the equipment above when hatching eggs.

✓ **Many eggs are hatched at once/An incubator can be used at any time.**

✓ **It is used for commercial purposes.**

44. (a) State any two effects of accidents in our Community.

✓ **Death/Damage of property/Break down of families/Increased health care costs.**

(b) How useful are the following first aid materials to a first aider?

i) Bandage

✓ **For covering wounds/Control bleeding/tying around broken limbs**

ii) Iodine solution.

✓ **For cleaning wounds/Killing germs**

(c) Mention any one responsibility of a good first aider.

✓ **Identifying the cause of the accident/Removing the casualty from the accident scene/Assessing the condition of the casualty/Taking the casualty to the health centre.**

45. (a) Name the mineral salt responsible for Strong formation of bones.

✓ **Calcium/Phosphorus**

(b) Give any one difference between Voluntary and involuntary muscles.

✓ **Voluntary muscles can be controlled by one's will while involuntary muscles cannot be controlled by one's will.**



(c) State any two ways of maintaining the skeletal system in proper working condition.

- ✓ **Performing regular physical exercises**
- ✓ **Feeding on food rich in calcium/Phosphorus/Vitamin D**
- ✓ **Immunisation against polio/Tetanus/Tuberculosis**
- ✓ **Observing proper posture**

46. (a) Write down one way boiled water can be contaminated.

- ✓ **Keeping boiled water in dirty containers**
- ✓ **Leaving boiled water uncovered**

(b) Mention any two examples of Water impurities.

- ✓ **Bacteria/Protozoa/Dissolved mineral salts/Sand particles/Humana wastes/Animal droppings/Sewage/Silt/Industrial wastes**

(c) Name any one way of obtaining clean water in our community.

- ✓ **Filtration/Decantation**

47. (a) Why is Solar electricity regarded as environmental friendly?

- ✓ **Solar electricity conserves trees/Solar electricity doesnot pollute the environment**

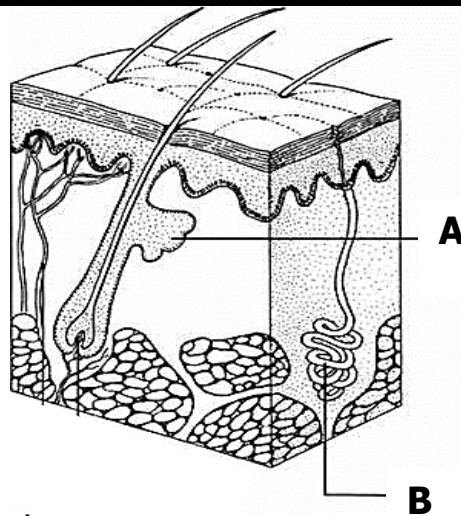
(b) What energy change takes place in a Solar panel?

- ✓ **Sunlight to electrical energy**

(c) Write any two ways conductors can be applied in our daily life.

- ✓ **Conductors are used to make cooking utensils**
- ✓ **Conductors are used to make electric wires**
- ✓ **For making flat irons.**

48. The diagram below is of a human Skin. study and use it to answer questions that follow.



a) Name parts marked.

A – **sebaceous gland**

B – **sweat gland**

b) Which region of the skin above prevents germs from entering the body.

✓ **Epidermis**

c) What do we call the pigment that determines Colour in the Skin?

✓ **Melanin**

49. (a) Write any example of the following objects

i) Sinking objects

✓ **Stone/Keys/Coin/Metal**

ii) Floating objects

✓ **Polythene paper/dry leaves/dry wood/feather/rubber**

(b) What happens to volume of water after freezing?

✓ **The volume increases**

(c) Why are some objects called "irregular objects?"

✓ **Irregular objects have improper shape/Indefinite shape**

✓ **Improper dimension**

50. (a) Mention any two ways how primary Health Care is useful in our community.

- ✓ **PHC promotes good health/PHC prevents the outbreak of diseases/Prevents diarrheal diseases /PHC reduces maternal and child death rates**

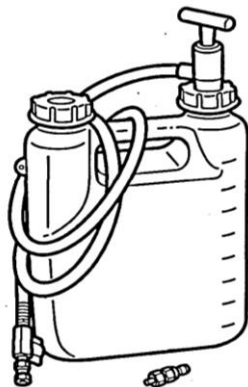
(b) Which element of PHC is promoted by clearing tall bushes around our homes?

- ✓ **Water and sanitation**

(c) State any two principles followed when promoting PHC.

- ✓ **Full community participation/Total health for all/Prevention other than cure/Health services should be accessible, available and affordable/PHC activities should be done according to priorities.**

51. The diagram below shows a garden tool. Study and use it to answer questions that follow.



a) What name is given to the above garden tool.

- ✓ **Knapsack sprayer/Back pack sprayer**

b) Mention any two vermin that Can be eliminated from a farm using the above garden tool.

- ✓ **Rats/Aphids/caterpillars/Beetles/moles/Voles/Snails/Slugs**

c) How useful is the above garden tool in disease control on a cattle farm?

- ✓ **It is used for spraying acaricides to kill ecto parasite such as ticks and mites.**

52. (a) in which way are canines important to humans

- ✓ **Canines help in tearing flesh.**

(b) State any two practices done by a child to promote oral health.

- ✓ **Flossing/Brushing teeth/Rinsing mouth with clean water/Avoiding climbing tall trees**

(c) How useful is tooth paste while cleaning our teeth?

- ✓ **Tooth paste kills germs/Whitens teeth**

53. (a) Why is the earth regarded as magnet?

- ✓ **The earth has the north pole and south pole**

(b) Which property of a magnet helps a doctor to remove iron bits from the eye of a Casualty?

- ✓ **Magnetism can pass through non-magnetic materials.**

(c) Name the two methods of magnetization which do not need electricity.

- ✓ **Stroking method/Induction method**

54. (a) Which type of clouds are important in the water cycle?

- ✓ **Nimbus clouds**

(b) Mention any two elements of weather which are useful in plant growth.

- ✓ **Rainfall/Sunshine/Wind/Temperature**

(c) State any two ways heat from the sun can be dangerous to our environment.

- ✓ **Heat from the sun kills animals/Dries crops/Causes drought/Dries water bodies/Leads to wild fires.**

55. The table below is about classification of animals. Study and use it to answer questions that follow.

<b>R</b>	<b>S</b>	<b>T</b>	<b>U</b>
Monkey	Salamander	Eagle	Crab
Bushbaby	Toad	Kite	Cray fish
Gorilla	Newt	Hawk	scorpion

a) Which group of vertebrates is animals in list R?

- ✓ **Mammals**

b) How is the group of birds in list T adapted to their mode of feeding?

- ✓ **They have strong hooked beak for tearing flesh**
- ✓ **They have strong curved talons for grabbing/Killing prey**
- ✓ **Have strong eye sight for seeing their prey at a distance.**

c) Name the animal missing in list S.

- ✓ **Frog/Caecilian**

d) Give any one difference between animals in list U and all other animals.

- ✓ **Animals in list U do not have back bone while other animals have a back bone**
- ✓ **Animals in list U have exoskeleton while other animals have endoskeleton.**

**END**