



THE E-LEARN EXAMINATIONS BOARD

PRE NATIONAL MOCK 2024

SET ONE / FOUR

INTEGRATED SCIENCE

Time Allowed: 2 hours 15 minutes

Index No.	EMIS No.					Personal No.		

Pupil's Name:

Pupil's Signature:

School Name:

District Name:

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.

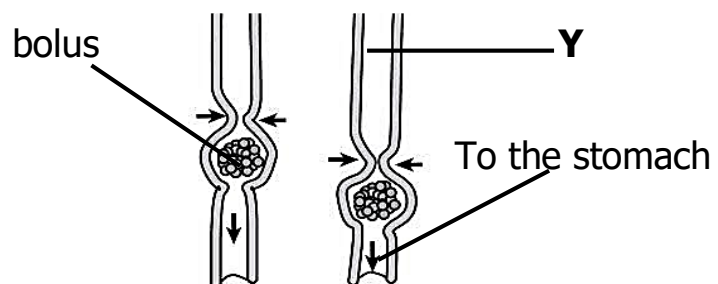
FOR EXAMINERS' USE ONLY		
Qn. No.	MARKS	EXR'S NO.
1 – 10		
11 – 20		
21 – 30		
31 – 40		
41 – 43		
44 – 46		
47 – 49		
50 – 52		
53 – 55		
TOTAL		

SECTION A: 40 MARKS

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

1. Write any **one** natural source of sound.
.....
2. State the type of clouds that resemble cotton piles in the sky.
.....
3. How are monotreme mammals similar to birds in terms of fertilization.
.....
4. Write **one** role played by a school health committee in the control of ringworms at school.
.....
5. State the main feature of sand soil which makes it suitable for cleaning utensils like saucepans.
.....
6. Give **one** way how cooks retain heat in the saucepan during cooking.
.....
7. Besides identification, how is a comb important to a bird?
.....
8. Mention **one** importance of physical changes in the environment.
.....
9. Name the part of a tap root which protects the growing tip from mechanical damage.
.....

The diagram below shows one of the parts of the alimentary canal. Use it to answer questions **7** and **8**.



10. Name the part of the alimentary canal marked **Y**.

.....

11. How does the bolus pass through part labeled **Y** above?



.....

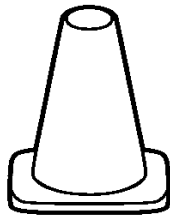
12. Write **one** condition of weather.

.....

13. Give **one** reason why steel is used to make artificial permanent magnets.

.....

The diagram below shows one of the equipment used on a sports pitch. Use it to answer questions **12** and **13**.



14. State the importance of the above equipment on a football pitch.

.....

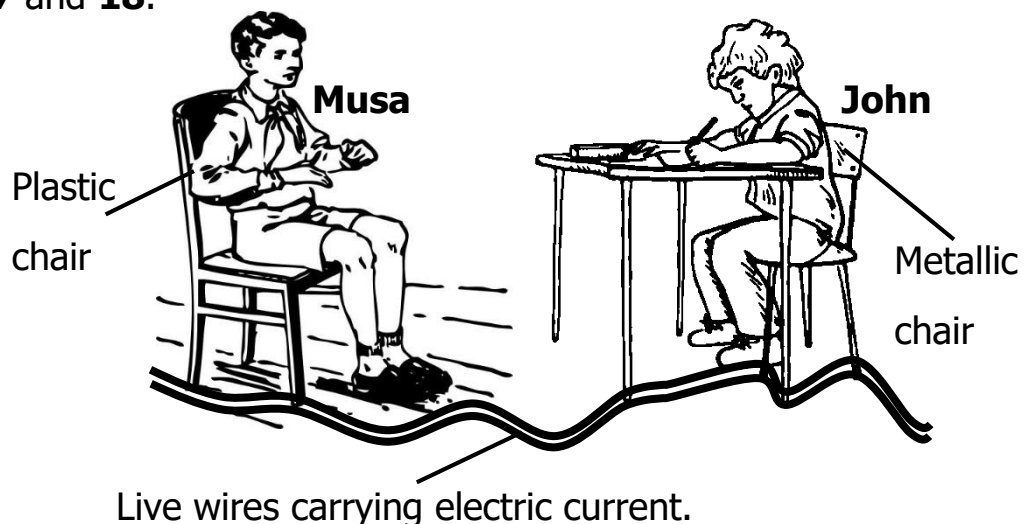
15. Why is the above item made of bright colours?

.....

16. How are delicate weather instruments protected from damage at a weather station?

.....

The diagram below shows two boys, Musa and John seated on different materials, one plastic chair and the other metallic. Study it and answer questions **17** and **18**.



17. Who of the two boys will be shocked by electricity?
.....
18. Give a reason to support your answer in (17) above.
.....
19. Name the blood cells manufactured in the bone marrows of long bones.
.....
20. When burning wood to form charcoal, logs of wood are covered with soil. State what would be formed if logs of wood are burnt openly without covering.
.....
21. State the reason why root tuber crops cannot be propagated through planting root tubers. ☐
.....
22. How is water similar to plants as resources?
.....
23. Besides enlargement of sexual organs, write **one** other primary sexual change common in adolescent boys and girls.
.....
24. State the function of white blood cells in the body.
.....
25. What type of pollination occurs in a flower where filaments grow taller than the style?
.....
26. Mention **one** biological way of controlling weeds.
.....
27. How do cattle protect themselves from enemies?
.....
28. Give the similarity between yeast and amoeba in terms of reproduction.
.....

29. Write down **one** advantage of hand milking.

.....

30. Name the substance in tobacco smoke which stimulates the releases of dopamine in the body.

.....

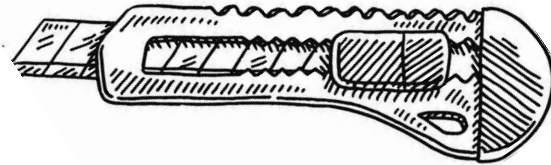
31. How does stale air from the VIP latrine pass through the vent pipe?

.....

32. Name the intestinal worm which feeds by diffusion.

.....

33. Give **one** way how the item below can be of use on a cattle farm.



.....

34. State any **one** substance absorbed in the stomach.

.....

35. Give **one** type of lice which attacks people.

.....

36. Name the part of a VIP which may control the spread of trachoma.

.....

37. A P.7 candidate broke down a bar magnet in two equal parts. What happened to each piece of the bar magnet?

.....

38. How do birds benefit from their hollow bones?

.....

39. What type of mosquitoes lay eggs with air floats?

.....

40. Name the deficiency disease prevented by feeding on the food value obtained from fish.

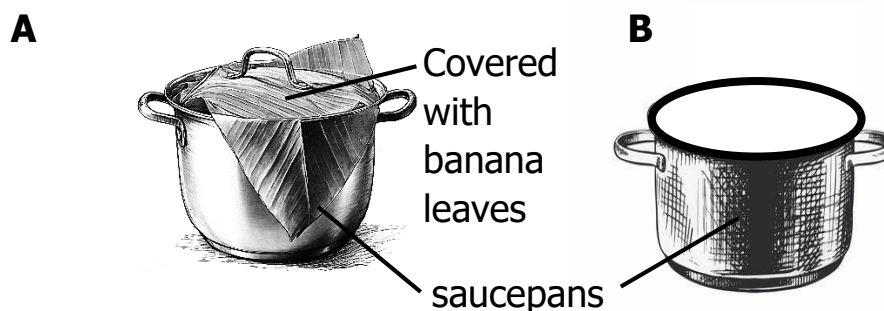
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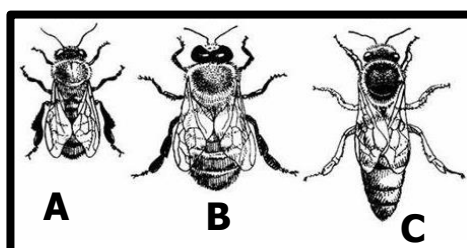
SECTION B: 60 MARKS

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

41. (a) State the energy changes which take place in the following gadgets:
- (i) Dynamo
- (ii) Percolator
- (b) Write any **one** living source of electricity.
-
- (c) How does rural electrification help to conserve natural animal habitats like forests?
-
42. The diagrams below show **two** different saucepans **A** and **B** containing raw food. Study them carefully and answer the questions that follow.



- (a) In which of the above diagrams will food be cooked faster.
-
- (b) Give a reason to support your answer.
-
- (c) By what process does heat reach the raw food through the saucepan.
-
- (d) Besides cooking, give **one** other importance of heat in our daily life.
-
43. Below, are different types of honey bees. Use them to answer the questions that follow.



(a) Which of the above bees lays eggs in the hive?

.....

Write any **two** duties of a worker bee in a hive.

(i)

(ii)

(b) What food value do we obtain from eating honey?

.....

44. Match the following elements of PHC to their activities correctly.



A

B

Water and sanitation

dental flossing.

Maternal and child health

draining stagnant Water.

Family planning

prolonged breast feeding.

Oral and dental health

immunizing pregnant
women with T.T Vaccine.

(i) Water and sanitation.....

(ii) Maternal and child health.....

(iii) Family planning.....

(iv) Oral and dental health

45. (a) To what type of change do we group digestion in man?

.....

(b) Write **two** ways of managing body changes.

(i)

(ii)

(c) Why is burning referred to as a chemical change?

.....

46. (a) What does letter "**I**" stand for in the abbreviation **PIASCY**?

.....

Turn Over

(b) Give **two** life skills that children get through **PIASCY** messages.

(i)

(ii)

(c) Write the **PIASCY** message which helps to the prevent **HIV/AIDS**.

.....



47. The diagram below shows a skull of a certain mammal. Use it to answer the questions that follow.



(a) To which sub class of mammals do animals with such a skull belong?

.....

(b) What kind of food do such mammals feed on?

.....

(c) How is an animal with such a skull adapted to its mode of feeding?

.....

(d) Give **one** example of an animal with such a skull.

.....

48. (a) Name **two** examples of fuel obtained from crude oil.

(i)

(ii)

(b) How are the fuels mentioned in **48(a)** above separated from crude oil?

.....

(c) Under which principle does the method in (b) above work?

.....

49. (a) Give **two** functions of muscles to the human body.

(i)

(ii)

(b) Name **one** organ in the body made of cardiac muscles.

.....

(c) Give the main reason why biceps and triceps are called antagonistic muscles.

.....

50. (a) Name the force which:



(i) holds molecules of water together.

.....

(ii) enables small insects like mosquitoes to stand on water.

.....

(b) Give **two** ways we can use “**air exerts pressure**” in our daily life.

(i)

(ii)

51. (a) Write **two** uses of magnets.

(i)

(ii)

(b) State the property of a magnet which enables a pilot to find direction.

.....

(c) In the space provided below, draw an illustration of magnets to show that “**unlike poles attract**”



52. (a) Why are rabbits given a block of salt to lick?

.....

(b) Okello’s rabbits have difficulty in breathing. Which disease are they suffering from?

.....

(c) Mention **two** advantages of keeping rabbits over cattle.

(i)

(ii)

53. (a) Write **two** agents of seed dispersal.



(i)

(ii)

(b) How are coconut seeds dispersed?

.....

(c) Give **one** way seed dispersal prevents extinction of plant species.

.....

54. (a) Write **two** components of plant glucose made during photosynthesis.

(i)

(ii)

(b) How does photosynthesis purify air?

.....

(c) Briefly write about a variegated leaf.

.....

.....

55. Use the words given in the box below to fill in the spaces below.

methane gas fermentation anaerobic sludge

Biogas is that is produced by rotting and

..... of organic matter. After the formation of

biogas, the waste material called is taken and

used as manure. Biogas is produced by respiration

with the help of anaerobic organisms.



END

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THE E-LEARN EXAMINATIONS BOARD

PRE NATIONAL MOCK 2024

SET ONE / FOUR

INTEGRATED SCIENCE GUIDE

Time Allowed: 2 hours 15 minutes



Index No.	EMIS No.					Personal No.		

COMPILED: **TR. WASIKE WYCLIFF** 0751164735
TR. SSEBUGUZI KERIAN 0774939354 / 0701444445
TR. MULINDWA HAKIM 0701564376

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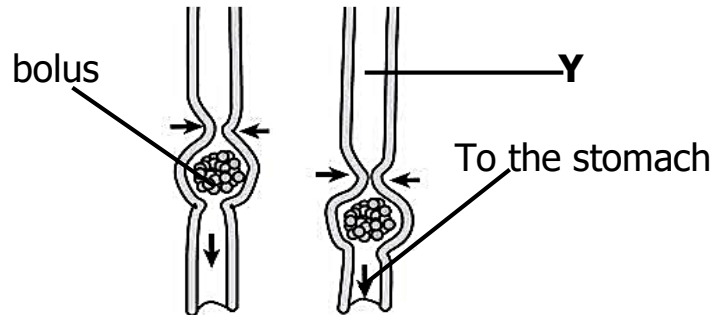
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41 – 43		
44 – 46		
47 – 49		
50 – 52		
53 – 55		
TOTAL		

SECTION A: 40 MARKS

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

1. Write any **one** natural source of sound.
✓ **Man // birds // cow // a dog // thunder**
2. State the type of clouds that resemble cotton piles in the sky.
✓ **Cumulus clouds**
3. How are monotreme mammals similar to birds in terms of fertilization.
✓ **Both monotremes and birds undergo internal fertilization.**
4. Write **one** role played by a school health committee in the control of ringworm at school.
✓ **A school health committee promotes proper personal hygiene among school children.**
5. State the main feature of sand soil which makes it suitable for cleaning utensils like saucepans.
✓ **Sand soil has rough texture.**
✓ **Sand soil has rough soil particles.**
6. Give **one** way how cooks retain heat in the saucepan during cooking.
✓ **By covering food with banana leaves.**
7. Besides identification, how is a comb important to a bird?
✓ **For temperature regulation.**
✓ **For attraction of female for mating.**
8. Mention **one** importance of physical changes in the environment.
✓ **Evaporation helps to separate mixtures.**
✓ **Condensation helps in the formation of rain.**
✓ **Freezing helps in the preservation of food stuffs.**
9. Name the part of a tap root which protects the growing tip from mechanical damage.
✓ **Root cap**

The diagram below shows one of the parts of the alimentary canal. Use it to answer questions **7** and **8**.



10. Name the part of the alimentary canal marked **Y**.

✓ **Gullet / oesophagus.**

11. How does the bolus pass through part labeled **Y** above?

✓ **By peristalsis.**

12. Write **one** condition of weather.

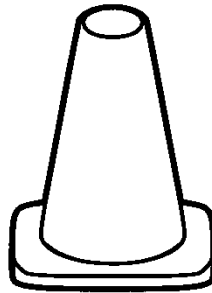
✓ **Sunny // windy // rainy // cloudy**

REJECT: sunny weather // windy weather // cloudy weather

13. Give **one** reason why steel is used to make artificial permanent magnets.

✓ **Steel retains magnetism for a long time.**

The diagram below shows one of the equipment used on a sports pitch. Use it to answer questions **12** and **13**.



14. State the importance of the above equipment on a football pitch.

✓ **For demarcating the area of usage on a football pitch.**

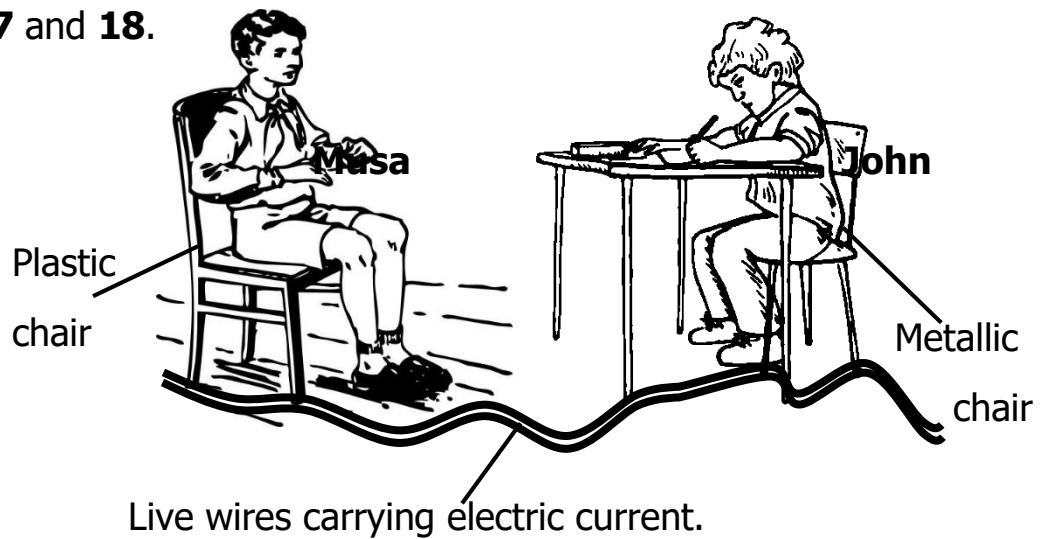
15. Why is the above item made of bright colours?

✓ **For easy identification**

16. How are delicate weather instruments protected from damage at a weather station?

✓ **By keeping delicate weather instruments in a Stevenson screen.**

The diagram below shows two boys, Musa and John seated on different materials, one plastic chair and the other metallic. Study it and answer questions **17** and **18**.



17. Who of the two boys will be shocked by electricity?
✓ **John**
18. Give a reason to support your answer in (17) above.
✓ **A metallic chair is a good conductor of electricity unlike the plastic one.**
19. Name the blood cells manufactured in the bone marrows of long bones.
✓ **White blood cells / Leucocytes**
20. When burning wood to form charcoal, logs of wood are covered with soil. State what would be formed if logs of wood are burnt openly without covering.
✓ **Ash would be formed.**
21. State the reason why root tuber crops cannot be propagated through planting root tubers.
✓ **Root tubers do not have buds that grow into anew plant.**
22. How is water similar to plants as resources?
✓ **Both water and plants are renewable resources.**
✓ **Both water and plants are renewable energy resources**
23. Besides enlargement of sexual organs, write **one** other primary sexual change common in adolescent boys and girls.

✓ **Production of gametes (reproductive cells)**

✓ **Development of gonads.**

24. State the function of white blood cells in the body.

✓ **To defend the body against diseases.**

✓ **To fight against germs.**

25. What type of pollination occurs in a flower where filaments grow taller than the style?

✓ **Self-pollination**

26. Mention **one** biological way of controlling weeds.

✓ **Keeping bioagents // Grazing/feeding animals on weeds**

27. How do cattle protect themselves from enemies?

✓ **By goring**

28. Give the similarity between yeast and amoeba in terms of reproduction.

✓ **Both yeast and amoeba undergo asexual reproduction.**

29. Write down **one** advantage of hand milking.

✓ **Hand milking is cheap // it does not need skilled labour.**

30. Name the substance in tobacco smoke which stimulates the releases of dopamine in the body.

✓ **Nicotine REJECT: tar**

31. How does stale air from the VIP latrine pass through the vent pipe?

✓ **Through convection.**

32. Name the intestinal worm which feeds by diffusion.

✓ **Tapeworm**

33. Give **one** way how the item below can be of use on a cattle farm.



✓ **It can be used for open castration.**

34. State any **one** substance absorbed in the stomach.

✓ **Simple sugar // common salt // Alcohol / drugs**

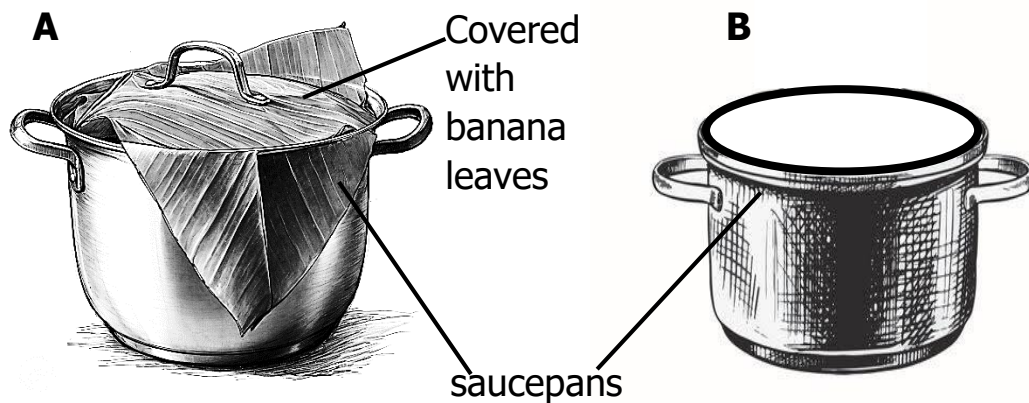
35. Give **one** type of lice which attacks people.
✓ **Crab lice // hair lice // body lice**
36. Name the part of a VIP which may control the spread of trachoma.
✓ **Fly screen/Screen**
37. A P.7 candidate broke down a bar magnet in two equal parts. What happened to each piece of the bar magnet?
✓ **Each piece of a magnet became an independent magnet.**
38. How do birds benefit from their hollow bones?
✓ **Hollow bones reduce the weight of a bird for easy flight.**
39. What type of mosquitoes lay eggs with air floats?
✓ **Female anopheles mosquito**
40. Name the deficiency disease prevented by feeding on the food value obtained from fish.
✓ **Kwashiorkor** **REJECT: Proteins**

SECTION B: 60 MARKS

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

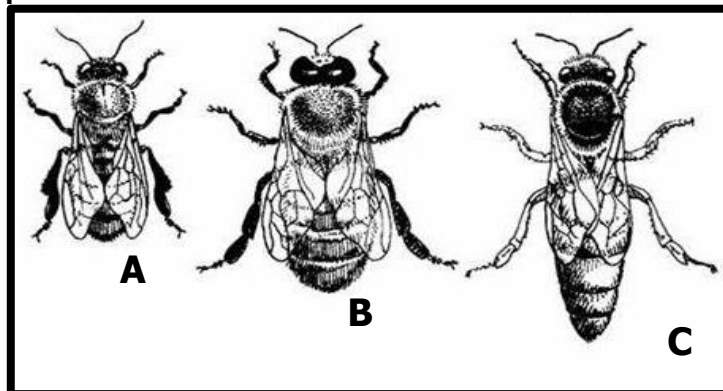
41. (a) State the energy changes which take place in the following gadgets:
- (i) Dynamo - **mechanical energy inform of kinetic energy changes to electrical energy.**
- (ii) Percolator - **electrical energy changes to heat energy.**
- (b) Write any **one** living source of electricity.
✓ **Electric eel**
- (c) How does rural electrification help to conserve natural animal habitats like forests?
✓ **Rural electrification reduces the rate of deforestation.**
✓ **It discourages deforestation.**

42. The diagrams below show **two** different saucepans **A** and **B** containing raw food. Study them carefully and answer the questions that follow.



- (a) In which of the above diagrams will food be cooked faster.
✓ **In A**
- (b) Give a reason to support your answer.
✓ **Food is covered with banana leaves which retain heat in the saucepan for faster cooking.**
- (c) By what process does heat reach the raw food through the saucepan.
✓ **Through conduction.**
- (d) Besides cooking, give **one** other importance of heat in our daily life.
✓ **Heat provides warmth to people.**
✓ **Heat helps in ironing.**
✓ **Heat helps in rain formation.**
✓ **Heat helps in food preservation by sun drying.**

43. Below, are different types of honey bees. Use them to answer the questions that follow.



(a) Which of the above bees lays eggs in the hive?

✓ **Bee C**

(b) Write any **two** duties of a worker bee in a hive.

✓ **Cools the temperature in the hive.**

✓ **Feeds the grubs.**

✓ **Makes honey // guards the hive.**

✓ **Makes royal jelly for the queen to feed on.**

(c) What food value do we obtain from eating honey?

✓ **Carbohydrates**

44. Match the following elements of PHC to their activities correctly.

A

Water and sanitation

Maternal and child health

Family planning

Oral and dental health

B

dental flossing.

draining stagnant Water.

prolonged breast feeding.

immunizing pregnant
women with T.T Vaccine.

(i) Water and sanitation - **draining stagnant water**

(ii) Maternal and child health – **immunizing pregnant women with TT vaccine**

(iii) Family planning – **prolonged breast feeding.**

(iv) Oral and dental health – **dental flossing**

45. (a) To what type of change do we group digestion in man?

✓ **Chemical change**

(b) Write **two** ways of managing body changes.

✓ **Bathing daily.**

✓ **Shaving overgrown pubic hair.**

(c) Why is burning referred to as a chemical change?

✓ **Burning is irreversible // burning forms anew substance.**

46. (a) What does letter "I" stand for in the abbreviation **PIASCY**?

✓ **Initiative**

(b) Give **two** life skills that children get through **PIASCY** messages.

✓ **Self esteem // self-awareness**

✓ **decision making // assertiveness**

(c) Write the **PIASCY** message which helps to the prevent **HIV/AIDS**.

✓ **Abstinence / abstinence from sex**

47. The diagram below shows a skull of a certain mammal. Use it to answer the questions that follow.



(a) To which sub class of mammals do animals with such a skull belong?

✓ **Carnivorous mammals**

(b) What kind of food do such mammals feed on?

✓ **Flesh**

(c) How is an animal with such a skull adapted to its mode of feeding?

✓ **It has well developed canines for tearing flesh.**

(d) Give **one** example of an animal with such a skull.

✓ **Dog // hyena // domestic cat // tiger**

48. (a) Name **two** examples of fuel obtained from crude oil.

✓ **Petrol // diesel/kerosene**

(b) How are the fuels mentioned in **48(a)** above separated from crude oil?

✓ **By fractional distillation**

(c) Under which principle does the method in (b) above work?

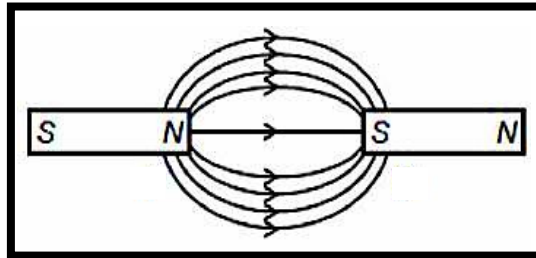
✓ **Different liquids have different boiling points.**

49. (a) Give **two** functions of muscles to the human body.
- ✓ **Muscles help in body movement through contraction and relaxation.**
 - ✓ **Muscles help animals to perform heavy duties.**
 - ✓ **Muscles of the heart help to pump blood.**
 - ✓ **Muscles of the eye regulate the amount of light entering the eye.**
- (b) Name **one** organ in the body made of cardiac muscles.
- ✓ **The heart**
- (c) Give the main reason why biceps and triceps are called antagonistic muscles.
- ✓ **Biceps and triceps work in pairs and oppose the action of each other.**
50. (a) Name the force which:
- (i) holds molecules of water together.
- ✓ **Cohesion force**
- (ii) enables small insects like mosquitoes to stand on water.
- ✓ **Surface tension**
- (b) Give **two** ways we can use “**air exerts pressure**” in our daily life.
- ✓ **It enables us to drink water using a straw.**
 - ✓ **It enables a cesspool emptier to suck wastes from the septic tank.**
 - ✓ **It enables a kite to fly in air.**
 - ✓ **It enables a doctor to inject medicine in a patient’s body.**
51. (a) Write **two** uses of magnets.
- ✓ **Magnets are used in electric bells.**
 - ✓ **Magnets are used in loud speakers.**
 - ✓ **Magnets are used in compasses to show direction.**
 - ✓ **They are used in dynamos and generators to produce electricity.**

(b) State the property of a magnet which enables a pilot to find direction.

✓ **A freely suspended magnet will always rest in North-South direction.**

(c) In the space provided below, draw an illustration of magnets to show that “**unlike poles attract**”



52. (a) Why are rabbits given a block of salt to lick?

✓ **To provide mineral salts to the rabbits.**

(b) Okello's rabbits have difficulty in breathing. Which disease are they suffering from?

✓ **Pneumonia**

(c) Mention **two** advantages of keeping rabbits over cattle.

✓ **Rabbits require a small piece of land while cattle need a bigger piece of land.**

✓ **Rabbits consume little food unlike cattle.**

✓ **Rabbits multiply faster than cattle.**

✓ **Rabbits are cheaper than cattle in terms of management.**

53. (a) Write **two** agents of seed dispersal.

✓ **Water // Explosion**

✓ **Animals // wind**

(b) How are coconut seeds dispersed?

✓ **By flowing water/ through water dispersal.**

(c) Give **one** way seed dispersal prevents extinction of plant species.

✓ **Plants colonise new areas hence reducing the chances of extinction.**

54. (a) Write **two** components of plant glucose made during photosynthesis.
- ✓ **Carbon dioxide**
 - ✓ **Water**
- (b) How does photosynthesis purify air?
- ✓ **By absorbing or trapping carbon dioxide from the atmosphere.**
- (c) Briefly write about a variegated leaf.
- ✓ **A variegated leaf is a leaf with many colours.**
55. Use the words given in the box below to fill in the spaces below.

methane gas

fermentation

anaerobic

sludge

Biogas is **methane gas** that is produced by rotting and **fermentation** of organic matter. After the formation of biogas, the waste material called **sludge** is taken and used as manure. Biogas is produced by **anaerobic** respiration with the help of anaerobic organisms.

END