



SUREKEY EXAMINATIONS BOARD
PRE-PLC MAGIC SERIES (TOKYO)
2024

INTEGRATED SCIENCE

Time Allowed: 2 hours 15 minutes

| Random NO. | | | | | Personal No. | | |
|------------|--|--|--|--|--------------|--|--|
| | | | | | | | |

Candidate's Name:

Candidate's Signature:

School Name:

Read the following instruction carefully:

1. Do not forget to write your **school** or **district name** anywhere on this paper.
2. This paper has **two** sections: **A** and **B**. Section **A** has **40** questions and section **B** has **15** questions. The paper has **15 printed pages** altogether.
3. Answer **all** the questions. **All** answers to both sections **A** and **B** must be written 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 deficiency disease that causes stunted growth in children.

.....

2. State any **one** difference between the worker bee and the drone bee.

.....

.....

3. Give any **one** example of fertilizers that do not pollute the soil.

.....

The diagram below shows a man suffering from a certain disease. Study and use it to answer questions 4 and 5.



4. Name the insect borne disease that is causes swelling of legs of the man above.

.....

5. Which insect vector spreads the disease that causes the legs of the man to swell as shown above?

.....

6. State the importance of oxygen in the human body during respiration.

.....

7. Give any **one** way in which non flowering plants reproduce.

.....

8. Name the type of mechanical energy possessed by wind in the atmosphere.

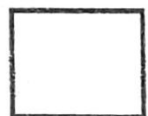
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9. Mention any **one** way of identifying flesh eating mammals in the environment.

.....

10. Give any **one** element of population and health.

.....



11. State any **one** structural characteristic of blood vessels that transport blood towards the heart.

.....

12. Give any **one** way of controlling common diseases without using drugs.

.....

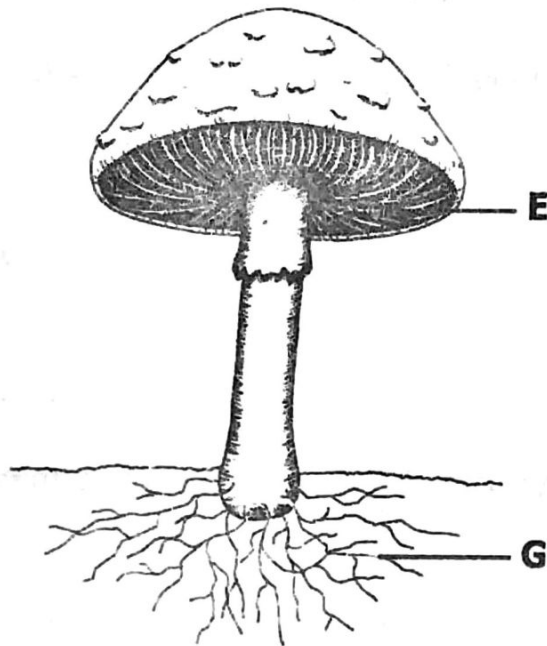
13. Give any **one** reason why water is not used in thermometers.

.....

14. State any **one** way in which it is important to maintain good posture.

.....

The diagram below shows a mushroom. Study and use it to answer questions **15** and **16**.



15. Name the part of the mushroom marked **G**.

.....

16. Give the function of the part marked **E** to the mushroom.

.....

17. Mention any **one** sign of a cow on heat.

.....

18. Name the natural process in plants that increases the amount of oxygen in the atmosphere.

.....

19. State any **one** effect of biological changes in the environment.

.....

20. State any **one** method that can be used to prepare a simple dish at home.

.....



21. Mention any **one** way in which too much wax affects human ear.

.....

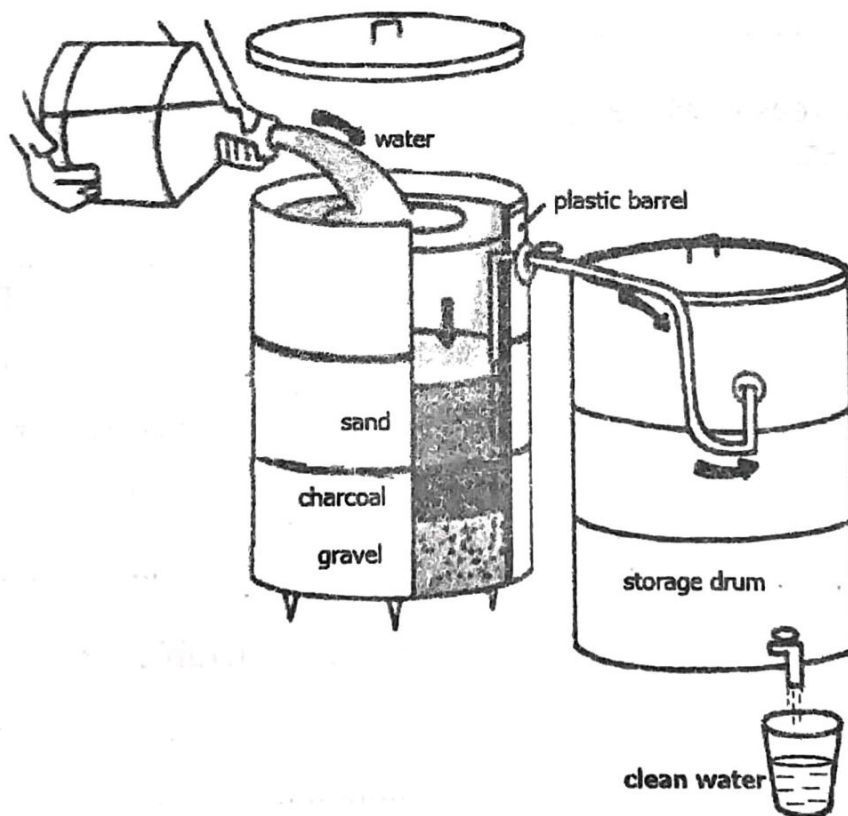
22. State any **one** way in which the trees help to control soil erosion in the school compound.

.....

23. State any **one** health habit that helps to maintain the proper functioning of the human digestive system.

.....

The diagram below shows a method used to obtain clean water at home.
Use it to answer question 24 and 25.



24. Identify the method of obtaining clean water above.

.....

25. Give the reason why water obtained by the method above is not recommended for drinking yet it is clean.

.....

26. Apart from holding the roots firmly into the soil, state any **one** other function of the roots to the plant.

.....

27. How is the double silvered walls of the flask able to reduce heat loss by radiation?

.....

28. State any **one** in which a child suffering from tetanus can be identified.

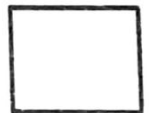
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29. Give any **one** reason why you would not advise a farmer to use a morant hutch for keeping his/her rabbits.

.....

30. Give any **one** reason why engine oil is usually put on wood for electricity poles.

.....



31. Which method of making temporary magnets does not require the use of a permanent magnet?

.....

32. Name any **one** system of keeping poultry that is suitable for commercial purposes.

.....

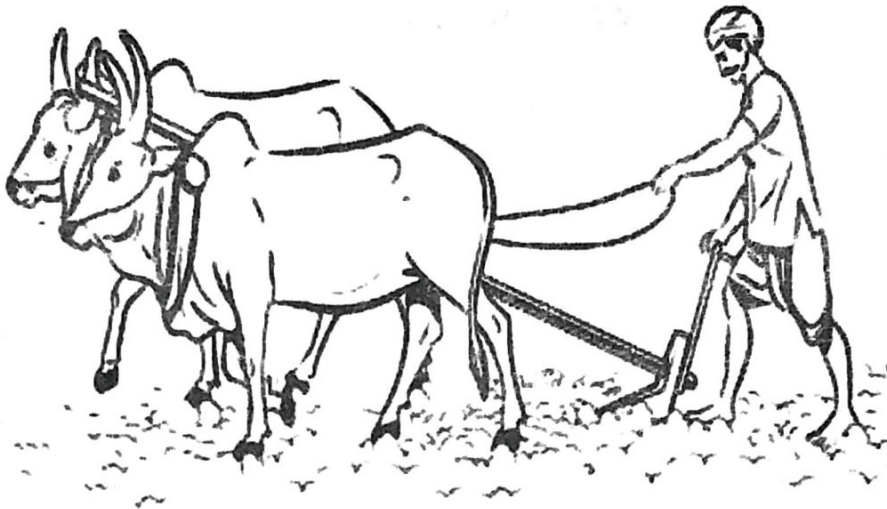
33. Name the type of alcohol that causes blindness when taken.

.....

34. State any **one** characteristic of objects that float on water.

.....

The diagram below shows a method used in land preparation. Study and use it to answer questions **35** and **36**.



35. Name the method of land preparation shown above.

.....

36. State the type of cattle used for preparing land in the diagram above.

.....

37. Name any **one** disorder that affects muscles in human beings.

.....

38. Write down any **one** life skill that school children need to develop in order to safe guard themselves against drug abuse.

.....

39. Give any **one** characteristic of images formed by a pinhole camera.

.....

40. State the reason why carbon dioxide is used for preserving soft drinks like soda.

.....



SECTION B: 60 MARKS

Questions 41 to 55 carry four marks each

41. A primary five pupil mixed sugar with water and stirred, sugar dissolved in water forming a solution.

(a) State the reason why sugar dissolved in water.

.....

(b) Identify the name given to the following substances in the experiment.

(i) Sugar:

(ii) Water:

(c) Name any **one** other substance that would behave as sugar when mixed with water to form a solution.

.....

42. The table below shows groups of arthropods, their characteristics and examples of each group. Study it carefully and complete it correctly.

| Group of arthropods | Characteristics of arthropods | Examples of arthropods |
|---------------------|-------------------------------|------------------------|
| Insects | | Grasshopper |
| | They have a hard crusty skin | Crab |
| Myriapods | They have many jointed legs | |
| Arachnids | | Scorpion |

43. (a) Write down any **one** activity done by young farmers club in a school.

.....

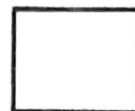
- (b) State any **two** ways in which young farmers clubs are important in a school.

(i)

(ii)

- (c) Apart from young farmers clubs, name any **one** other example of science oriented club in a school.

.....



44. (a) What is meant by the term silting?

.....

.....

- (b) State the major cause of silting in water bodies.

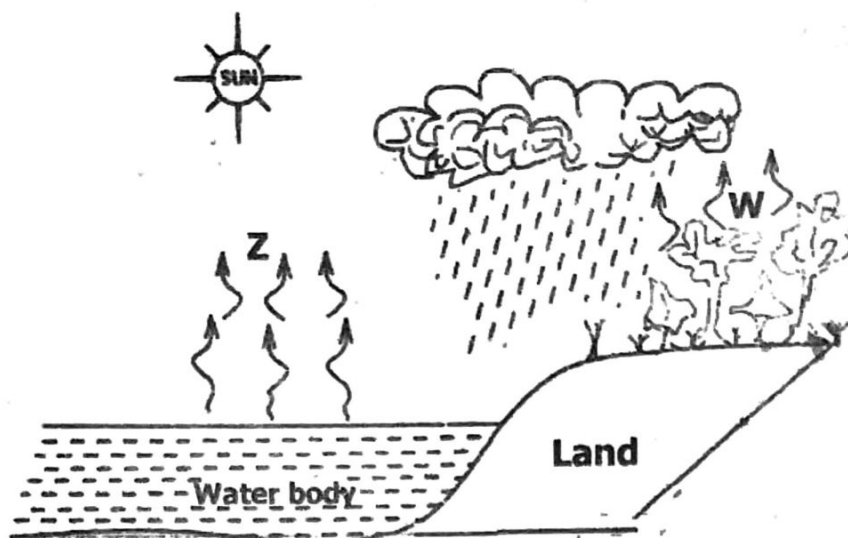
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- (c) Give any **two** ways in which silting affects aquatic life.

(i)

(ii)

45. The diagram below shows a water cycle. Study and use it to answer the questions that follow.



- (a) Name the process that is taking place at **W**.

.....

- (b) State the role of the following in the diagram above.

- (i) Water body:

.....

- (ii) Sun:

.....

- (c) What type of change takes place at **Z** in the diagram above?

.....

46. (a) Mention any **two** processes that take place in the human kidney.

- (i)

- (ii)

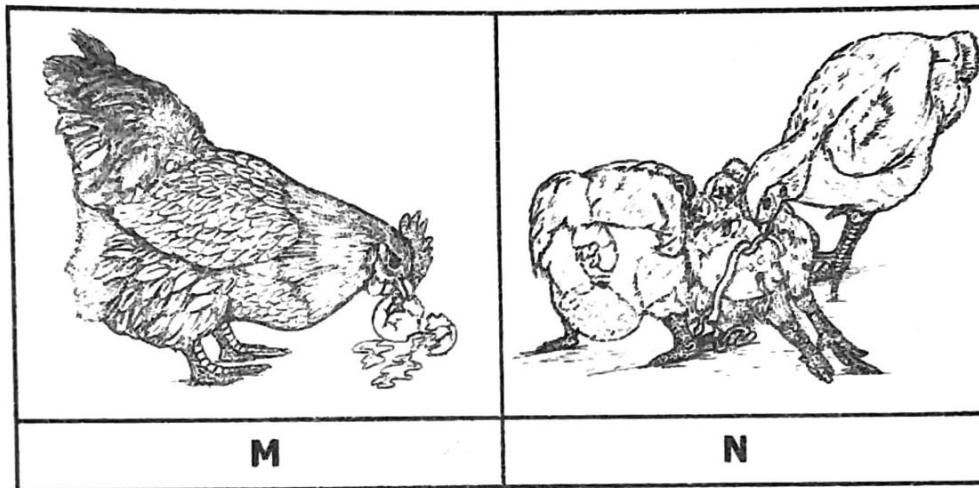
- (b) State any **one** way in which the function of the human Kidney is similar to that of the human skin.

.....

- (c) Give the reason why people urinate a lot during cold weather.



47. The diagram below shows vices commonly found in domestic birds. Study and use them to answer the questions that follow.



- (a) Identify the forms of vices in domestic birds marked **M** and **N**.
- (i) **M** :
- (ii) **N** :
- (b) Give any **one** cause of the form of vice marked **M** in domestic birds.
-
- (c) State any **one** piece of advice you would give to a poultry farmer to control the vices marked **M** and **N** among his/her domestic birds.
-

48. Name the form of accident whose first aid is to;

(a) Dip the injured part in cold water.

.....

(b) Fan the casualty.

.....

(c) Apply tepid sponging.

.....

(d) Pinch the soft part of the nose.

.....

49. (a) Write down **two** causes of short sightedness in people.

(i)

(ii)

(b) Name the type of lens used to correct short sightedness in people.

.....

(c) Apart from short sightedness, give any **one** other defect that affects the human eye.

.....



50. (a) Apart from breastfeeding, give any **two** other ways in which the body can acquire natural immunity.

(i)

(ii)

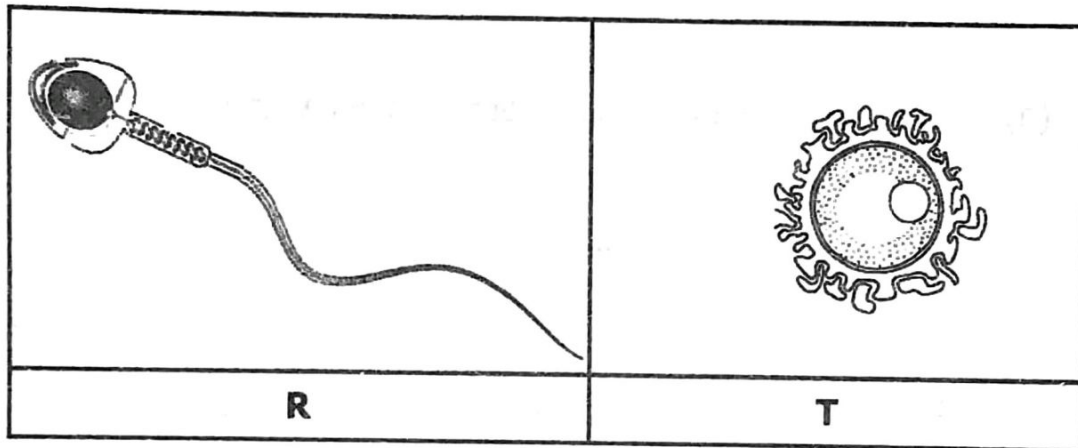
- (b) In which way does breastfeeding help to boost the immunity the baby?

.....

- (c) State any **one** way in which a breastfeeding mother can increase the production of milk in her mammary glands.

.....

51. The diagrams below show reproductive cells in human beings. Study and use them to answer the questions that follow.



- (a) Name the reproductive cells marked **R** and **T**;

(i) **R** :

(ii) **T** :

- (b) Identify the reproductive cell that is similar to the pollen grains in plants.

.....

- (c) State what happens when the reproductive cells marked **R** fuses with the reproductive cell marked **T**.

.....

52. (a) Write down any **two** examples of nonbiodegradable wastes in the environment.

(i)

(ii)

(b) Give any **two** ways in which nonbiodegradable wastes can be recycled in the environment.

(i)

(ii)



53. (a) Name **two** types of tuber crops commonly grown by people in your locality.

(i)

(ii)

(b) State any **two** structural characteristics of tuber crops.

(i)

(ii)

54. (a) State the recommended distance for the following places from the pit latrine.

(i) Water source:

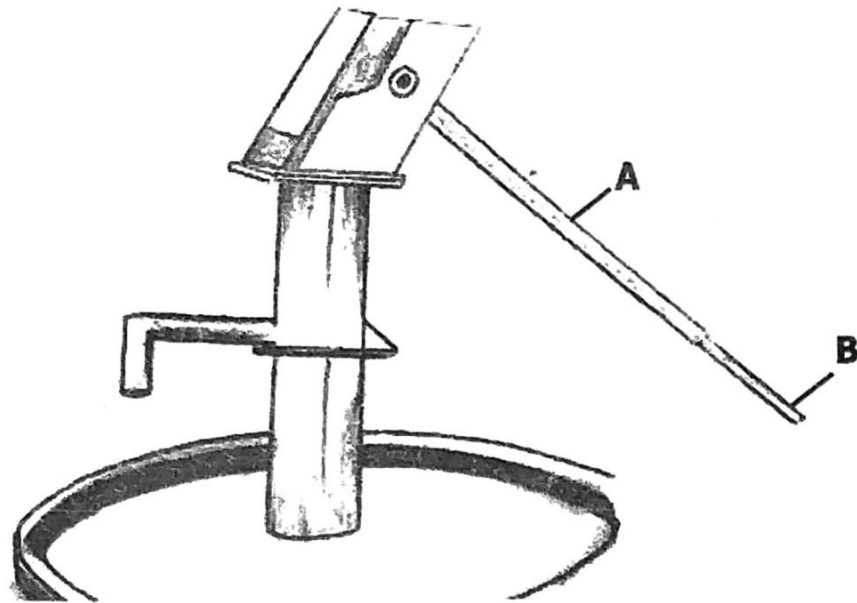
(ii) Kitchen:

(b) State any **two** ways of controlling bad smell from a pit latrine.

(i)

(ii)

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



- (a) Name the group of simple machines to which the borehole above belongs.

.....

- (b) Identify the point from the borehole to which the person will use less effort when pumping water.

.....

- (c) Give a reason for your answer in (b) above.

.....

.....

- (d) On the diagram above, show the position of the **load**.

