

THE SIPRO EDUCATIONAL SERVICES LTD
SPECIAL SET EXAMINER'S INTERVIEW 2023
SUBJECT: INTEGRATED SCIENCE

Time Allowed : 1Hr 30Mins.

Teacher's name :

Contact(s) :

Instructions:

- ✓ Attempt all questions.
- ✓ All telephones **MUST** be switched off.

SECTION A (40 MARKS)

Questions 1 to 40 carry one mark each

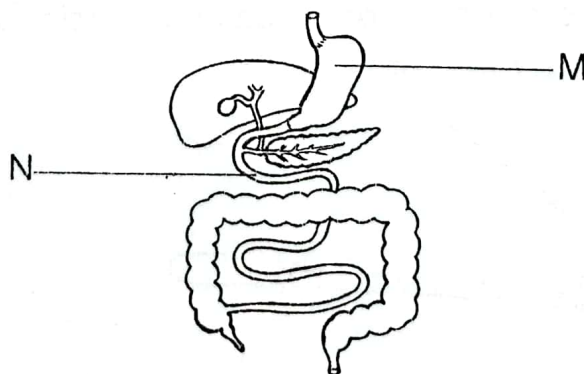
1. Name the source of geothermal electricity.

2. Which vector spreads sarcoptic mange among people?

3. How is mouth resuscitation useful to a victim of near drowning?

4. State the way ctenidia is useful to a cowrie.

The diagram below shows part of the digestive system. Study and use it to answer questions 5 and 6.



5. Name the part marked **N**.

6. State the role of part **M** in the physical digestion of food.

7. How is lack of vitamin B₂ a danger to one's health?

8. Name the immunisable disease spread through sexual intercourse with an infected person.

9. Why does porridge cool faster on a plate than in a cup?

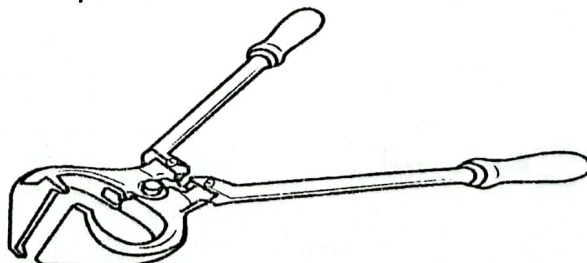
10. How are coconuts adapted to water dispersal?

11. State the method used for recovering water mixed with cooking oil.

12. Apart from determining the skin and hair colour, give **one** other importance of melanin pigment.

13. How does bee keeping help in the control of Kwashiorkor for among family members?

The diagram below is of a common tool used on a cattle farm. Study and use it to answer questions 14 to 15.



14. Name the tool shown in the diagram above.

15. How is the above tool useful on a cattle farm?

16. Name any **one** example of a natural change in the environment.

17. Which component of the soil forms the greatest percentage?

18. How is the role of a cotyledon in a maize grain different from that of a bean seed?

19. How does mulching maintain soil moisture?

20. Give **one** way old metals can be reused in the environment.

21. How is excessive tobacco smoking dangerous to one's heart?

22. Name the type of teeth which doesn't exist in a milk set of teeth.

23. Why is the neck joint grouped under pivot joints?

24. How is an echo similar to an image in the way they are formed?

25. Why does a stone sink when placed in water?

26. Which rodent protects itself using a bad smell?

27. Give **one** similar primary sex characteristic common in both adolescent boys and girls.

28. Why do livestock farmers keep Alpine goats?

29. Name **one** plant that climbs others by using hooks.

30. How are ~~tigers~~ ^{tiger} adapted to seeing clearly in total darkness?

31. Why do liquids and gases allow heat transfer by convection?

32. State the method of making magnets where permanent magnets are not used.

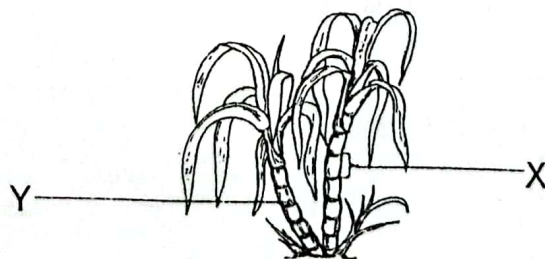
33. How is weather forecasting useful to a crop farmer?

34. Why are poultry vices and diseases not common in a cage system?

35. Which immunisable disease affects the brain?

36. How is fast flowing water useful in the production of hydroelectricity?

The diagram below is of a common plant in our environment. Study and use it to answer questions 37 and 38.



37. Name the part labelled **X**.

38. How is part **Y** useful to the above plant?

39. Why is it easier to push a wheelbarrow downhill than uphill?

40. State **one** factor to consider when selecting a given breed of goats to rear

SECTION B: 60 MARKS

Questions 41 to 55 carry four marks each.

41.(a) Name the **two** protozoan cattle diseases spread by ticks.

(i) _____

(ii) _____

(b) Mention **two** methods used to control ticks on a cattle farm.

(i) _____

(ii) _____

42.(a) State **one** animal and plant fibre used in a textile industry.

(i) animal fibre: _____

(ii) plant fibre: _____

(b) Apart from making fabrics, give **two** other uses of plant fibres to people.

(i) _____

(ii) _____

43.(a) Name **one** simple machine which simplifies work by:

(i) reversing the direction of forces: _____

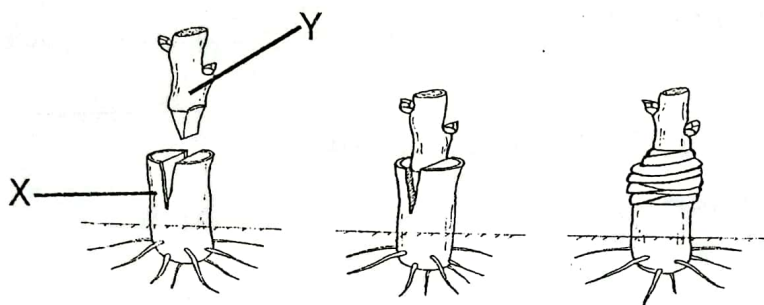
(ii) reducing the effort applied: _____

(b) How can the efficiency of the machine in 43(a)(i) above be increased?

(c) Why is a knife grouped under simple machines?

44. The diagrams below show a method of artificial vegetative propagation.

Study and use them to answer the questions that follow.



(a) Identify the method of propagation shown in the diagram above.

(b) Name the parts labelled X and Y.

(i) X

(ii) Y

(c) Give **one** advantage of the above method over the use of seeds.

45. (a) To which group of invertebrates does a snail belong?

(b) How is a freshwater snail dangerous to humans?

(c) Name the causative agent for the disease spread by freshwater snails.

(d) Name the invertebrate which has no brain, heart, bones and eyes.

46. (a) State the types of germination which the following plants undergo.
(i) peas: _____
(ii) rice: _____

(b) Give **one** role of the following conditions during germination.

(i) oxygen; _____
(ii) warmth; _____

47. (a) State the way crop rotation performs the following roles:

(i) improving soil fertility; _____
(ii) controlling soil erosion; _____

(b) Write a brief meaning on the following terms as used in crop growing:

(i) hardening off; _____
(ii) gap filling; _____

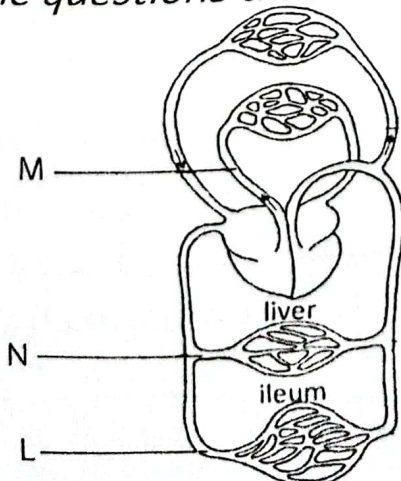
48. (a) Why are lactating mothers grouped under vulnerable people?

(b) Apart from lactating mothers, give **two** other vulnerable groups of people.

(i) _____
(ii) _____

(c) Why should lactating mothers be given plenty of fluids to drink?

49. The diagram below is of part of the circulatory system. Study and use it to answer the questions that follow.



(a) Name the blood vessels marked **M** and **N**.

(i) M; _____

(ii) N; _____

(b) State the function of the blood vessels marked **N** and **M**.

(i) M; _____

(ii) N; _____

50.(a) State the **two** nitrogenous compounds excreted by the kidneys.

(i) _____

(ii) _____

(b) Name the disease of kidneys which can affect the eyes as well.

(c) How is the kidney adapted to regulation of body salts and fluids?

51. (a) State **two** ways people abuse drugs in the community.

(i) _____

(ii) _____

(b) State **two** dangers caused by tobacco smokers to the community.

(i) _____

(ii) _____

52.(a) State the method of heat transfer which helps in;

(i) lighting a charcoal stove;

(ii) drying harvested crops;

(iii) ironing clothes;

(b) Why do the gaps in between rails appear narrow during hot weather?

53. State the role of each of the components below during ~~hot~~ ^{photosynthesis} weather:

- (i) carbon dioxide _____
- (ii) water _____
- (iii) sunlight energy _____
- (iv) chlorophyll _____

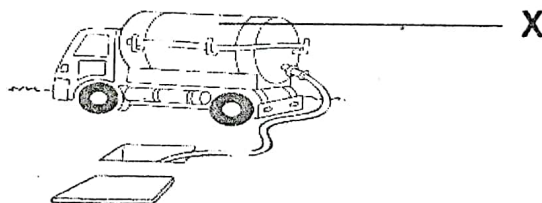
54. Match the parts of the eye below to their functions.

- | | |
|-----------------|-------------------------------------|
| Conjunctiva | forms images |
| Favea centralis | contains glands that produce tears. |
| Retina | forms the sharpest images. |
| Ciliary muscle | adjusts the lens' thickness |

Correct order

- (i) Conjunctiva _____
- (ii) Favea centralis _____
- (iii) Retina _____
- (iv) Ciliary muscle _____

55. The diagram below shows a common vehicle in our community. Study and use it to answer the questions that follow.



(a) Name the part of the above vehicle marked X.

(b) How is the above vehicle useful in the promotion of sanitation?

(Give **two** ways)

- (i) _____
- (ii) _____

(c) Name the force which enables the part marked X to empty the septic tank.