

STEM EXAMINATIONS BOARD

PRE-PRIMARY LEAVING EXAMINATION SET XIII, 2024

INTEGRATED SCIENCE

Time Allowed: 2 hours 15 minutes

Random No.						Personal No.		
Index No.								

Candidate's Name:

Candidate's Signature:

District ID No:

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Read the following instructions carefully:

1. Do not 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 8 printed pages altogether.
3. Answer all 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 other than graphs and diagrams will not be marked.
5. Unnecessary changes in your work and handwriting that cannot easily be read 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.

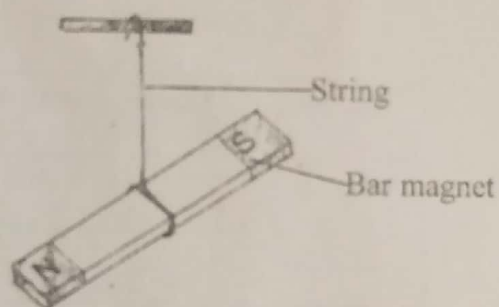
FOR EXAMINERS' USE ONLY		
Qn. No.	Marks	EXR'S NO.
1- 10		
11 - 20		
21 - 30		
31 - 40		
41 - 43		
44 - 46		
47 - 49		
50 - 52		
53 - 55		
TOTAL		

SECTION A : 40 MARKS

Questions 1 to 40 carry one mark each.

1. Give any one way human beings use coal to produce energy.
.....
2. State any one way of preventing HIV/AIDS among sex workers.
.....
3. What happens to the level of water when an irregular object is lowered in a measuring cylinder?
.....
4. State the role of villi in the ileum.
.....
5. Apart from bathing, give any one way of keeping the human body clean.
.....
6. Why does blood go to the liver during circulation?
.....

The diagram below shows a bar magnet freely suspended in air. Study and use it to answer questions 7 and 8.

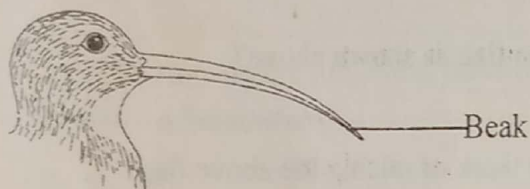


7. What does the illustration above show about magnets?
.....
8. State the role of the string in the above experiment.
.....
9. Give any one benefit of correct posture to the human body.
.....
10. What is the danger of honey badgers in bee keeping?
.....
11. Which cattle product is used in textile industries for making leather?
.....
12. Why do babies infested with tape worms usually lose weight?
.....

13. State any one benefit of proper spacing among cassava plants.

14. How do parasites reduce the quality of cattle products?

The diagram below shows the beak of a bird. *Study and use it to answer questions 15 and 16.*



15. What does the bird with the above beak feed on?

16. How is the above beak adapted to feeding on the food named in (15) above?

17. Why is it not advisable to make the person who has taken poison to vomit?

18. How does overstocking cause soil erosion in the environment?

19. Which organ eliminates carbon dioxide and water vapour from the human body?

20. What causes hardness in water?

21. Why do some plants reduce the size of their leaves to thorns?

22. What happens when salt is mixed with water and stirred?

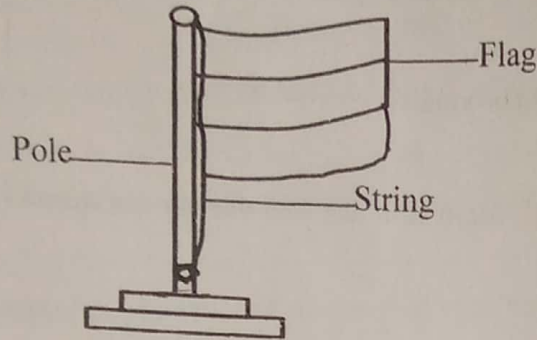
23. State one quality of a container suitable for keeping food.

24. Give the role of oxygen during respiration.

25. State the function of a spiral wall on a VIP latrine.

26. Why is humus important in soil?

The diagram below shows a simple machine. Study and use it to answer questions 27 and 28.



27. Which type of pulley is used to raise the flag as shown above?
.....
28. How does gravitational force affect the work of raising the above flag?
.....
29. Which type of sexual changes causes change in behaviour among adolescents?
.....
30. Name the immunisable disease which affects the liver among human beings.
.....
31. Why should a poultry house have proper ventilation?
.....
32. Give the similarity between a mushroom and a fern in terms of reproduction.
.....
33. Why is Primary Health Care (P.H.C) essential in human life?
.....
34. Give the role of mucus in the respiratory tract during breathing.
.....
35. Which farming system involves growing crops and rearing of animals together with trees on the same land?
.....
36. State the importance of soaking seeds before planting.
.....
37. How does culling control diseases among rabbits?
.....
38. State the function of cones to pine plants.
.....
39. Why are pregnant mothers advised to eat a lot of foods rich in iron?
.....

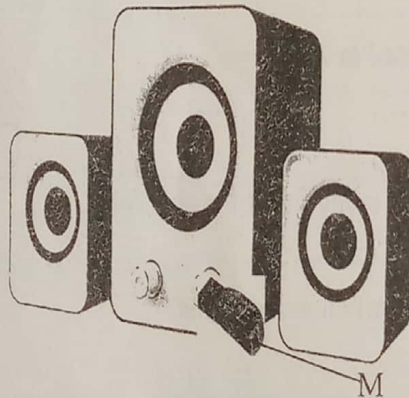
40. State the importance of expiry date on a drug.

SECTION B: 60 MARKS

(Questions 41 to 55 carry four marks each.)

41. (a) Which farming practice preserves moisture in the soil?
.....
(b) Why should moisture be preserved in the soil?
.....
(c) How do the following practices conserve the soil in the environment;
(i) Afforestation?
.....
(ii) Crop rotation?
.....
42. (a) Which system of the human body is greatly affected by cigarette smoking?
.....
(b) How does smoking affect the system named in (a) above?
.....
(c) Give any two ways human beings safeguard themselves against smoking.
(i).....
(ii).....

The diagram below shows an electronic device found in a home. *Study and use it to answer the questions that follow.*



43. (a) Name the device marked **M** on the diagram above.
.....
(b) What is the function of woofers in relation to sound energy?
.....
(c) Mention any two devices which serve the same purpose as woofers.
(i).....
(ii).....

44. (a) What is the role of chlorophyll in plants during photosynthesis?
.....

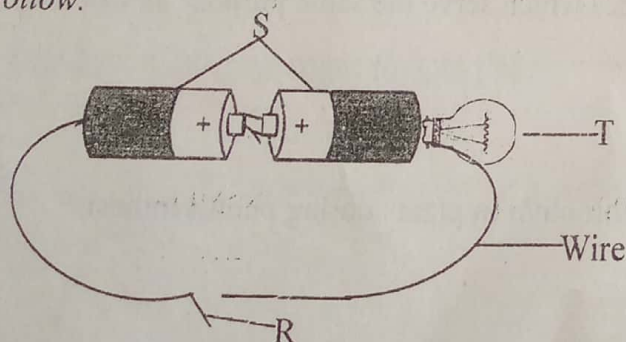
- (b) How can one test for the presence of starch in plant leaves?
.....
- (c) Why should a plant leaf be boiled before testing for starch?
.....
- (d) State the benefit of photosynthesis in the environment.
.....
45. (a) How does condom use control conception among human beings?
.....
- (b) Apart from condom use, give any two artificial methods of family planning.
(i).....
(ii).....
- (c) State any one benefit of family planning among human beings.
.....

Use the table below to answer the questions that follow.

X	Y	Z
Friesian	Aberdeen Angus	Oxen
Brown swiss	Hereford	
Jersey	Boran	

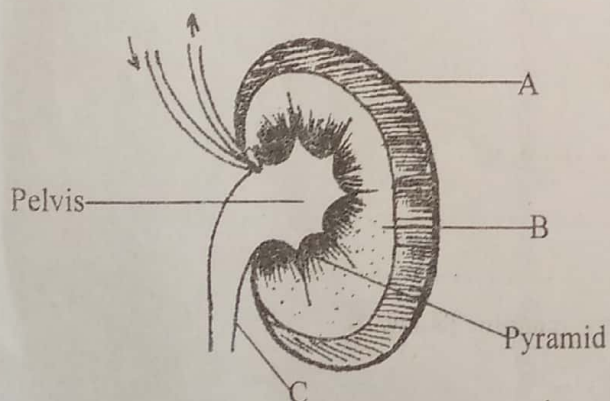
46. (a) Which type of cattle is represented in list Y?
.....
- (b) Give any two differences between cattle in list X and list Y.
(i).....
(ii).....
- (c) Why do farmers keep cattle represented in Z?
.....
47. (a) What is the benefit for covering wood being burnt for charcoal?
.....
- (b) State the energy change which occurs when wood burns.
.....
- (c) Give any two ways human beings use plants as resources.
(i).....
(ii).....

The diagram below shows an electric circuit. Study and use it to answer the questions that follow.



48. (a) Name the parts marked;
- (i) **R**
- (ii) **T**
- (b) why would part **T** fail to produce light when R is closed?
-
- (c) State the use of part **R** in an electric circuit.
-
49. (a) How does immunisation improve human body immunity?
-
- (b) Which type of immunity is got from immunisation?
-
- (c) Apart from immunisation, give any two ways the human body acquires immunity.
- (i)
- (ii)
50. (a) Why are bean seeds able to be dispersed by self explosion?
-
- (b) How does hard seed coat help guava seeds to be easily dispersed by animals?
-
- (c) Give two benefits of seed dispersal in the environment.
- (i)
- (ii)
51. (a) Mention any two conditions necessary for rusting to take place.
- (i)
- (ii)
- (b) How does painting prevent rusting of metals?
-
- (c) Why is rusting referred to as a chemical change?
-

The diagram below shows the human kidney. *Study and use it to answer the questions that follow.*



52. (a) Name the parts of the kidney marked;
- (i) **A**
- (ii) **C**

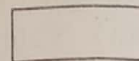
(b) Mention any two substances removed from blood by the human kidney.

(i).....

(ii).....

(c) State the function of part marked **B** to the human kidney.

.....



53. (a) What is castration?

.....

(b) How does castration control venereal diseases among farm animals?

.....

(c) Apart from controlling diseases, give two benefits of castration in animal husbandry.

(i).....

(ii).....

54. (a) What causes scalds among human beings?

.....

(b) How does dipping the scalded part in cold water benefit a victim?

.....

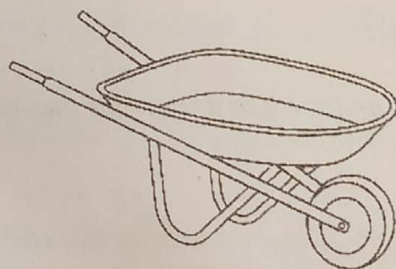
(c) Why should a victim be given a lot of water to drink incase of third degree burns?

.....

(d) Give one way of preventing burns and scalds at home.

.....

The diagrams below show simple machines. *Study and use them to answer the questions that follow.*



M



N

55. (a) Name the simple machines marked;

(i) **M**

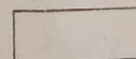
(ii) **N**

(b) State the similarity between machine **M** and **N**.

.....

(c) Give any one way the above machines simplify work.

.....



END

43. (a) Flash disc.
 (b) They reproduce sound stored on the flash disc.
 (c) Cassette players / DVD players / mobile phones.
44. (a) Chlorophyll traps sunlight energy.
 (b) Using iodine solution.
 (c) To kill living cells in a plant leaf.
 (d) It enables plants to get food / increases volume of oxygen in the environment.
45. (a) Condoms prevent sperms from entering the uterus.
 (b) Use of birth control pills / vasectomy / tubal ligation / use of birth control injection / Norplant / use of foams and jellies / diaphragm.
 (c) It helps the family to have a manageable number children / helps the mother's body to rest and prepare for the next pregnancy / controls population.
46. (a) Beef cattle.
 (b) Cattle in X are triangular in shape while those in Y are rectangular in shape / cattle in X are kept for milk production while those in Y are kept for meat production / cattle in X have taller legs than those in Y.
 (c) For provision of labour on farms.
47. (a) It allows limited supply of oxygen to the burning wood.
 (b) Chemical energy changes to heat and light.
 (c) Plants are sources of food / wood fuel / plant residues are used for production of biogas.
48. (a) (i) R — Switch.
 (ii) T — Electric bulb.
 (b) The dry cells are poorly arranged.
 (c) Part R breaks and completes the circuit.
49. (a) Immunisation causes the human body to produce antibodies against germs.
 (b) Artificial immunity.
 (c) Feeding on a balanced diet / breast feeding / recovering from sickness.
50. (a) Their fruits / pods have lines of weakness which can easily open to release seeds.
 (b) Hard seed coat prevent the seeds from being destroyed by digestive enzymes.
 (c) Enables plants to colonise new areas / prevents over crowding of plants in one place / increases chances of survival of some plant species.
51. (a) Moisture / oxygen.
 (b) Paint prevents moisture and oxygen from reaching the surface of a metal.
 (c) Rusting is irreversible / give out heat / form a new substance.
52. (a) (i) A — Cortex.
 (ii) C — Ureter.
 (b) Excess water / excess mineral salts / dead cells / uric acid / urea.
 (c) It re-absorbs useful substances that have been filtered from blood.
53. (a) Removal of essential male sex organs from an animal.
 (b) It prevents inbreeding among animals / prevents unwanted mating among animals.
 (c) It enables animals to grow bigger and faster / meat from castrated animals is free from bad smell / makes animals humble and easy to handle.
54. (a) Direct skin contact with wet heat.
 (b) It reduces heat in the skin and prevent further burning.
 (c) To prevent dehydration.
 (d) Cooking from raised places / holding hot objects using insulators / avoid leaving babies near fire places.
55. (a) (i) M — Wheelbarrow.
 (ii) N — Nut cracker.
 (b) Both belong to the second class levers.
 (c) They reduce effort needed to do work / increase the speed of working.

END

P.7 PRE-PLE SET XIII SCIENCE MARKING GUIDE, 2024

- | | |
|---|--|
| <ol style="list-style-type: none"> 1. Coal is burnt to produce thermal energy. 2. By promoting consistent and correct use of condoms during sexual encounter. 3. It increases /rises. 4. Villi absorb digested food. 5. Cutting fingernails short /combing hair /shaving hair /washing and ironing clothes /brushing teeth. 6. To be detoxified /release poisonous /toxic substances. 7. A freely suspended magnet in air rests in North – South direction. 8. It holds the bar magnet in air. 9. Prevents bending of bones /keeps muscles of the abdomen strong /prevents back and chest pains / promotes proper formation of bones. 10. They eat bees leading to swarming. 11. Hides. 12. Tape worms feed on digested food. 13. It allows easy agronomical activities like weeding / spraying /harvesting /encourages proper establishment of tubers. 14. Parasites damage hides /contaminate milk /spread diseases among cattle /reduce milk production in cattle. 15. Nectar. 16. It is long and slender. 17. To prevent the damage of the throat by poison /it may damage the throat. 18. Animals eat all the grass leaving the soil bare /leads to overgrazing. 19. Lungs. 20. Water impurities. 21. To reduce the rate of transpiration. 22. Salt dissolves completely in water /they form a solution. 23. It should be clean and dry /have a vacuum /a cover. 24. Oxygen burns /food to release energy. | <ol style="list-style-type: none"> 25. It promotes privacy. 26. Humus gives soil dark colour /adds nutrients to the soil /holds soil particles together. 27. Single fixed pulley. 28. It increases the effort need to do work /delays work. 29. Emotional changes. 30. Hepatitis B. 31. To prevent poultry vices /prevent suffocation of birds /prevent birds from blindness. 32. Both reproduce by means of spores. 33. P.H.C helps human beings to solve their own health problems. 34. Mucus moistens /warms and filters air. 35. Agroforestry. 36. It breaks seed dormancy /makes germination of seeds easy. 37. Culling prevents the spread of diseases from sick rabbits to health rabbits. 38. Cones produce and store spores. 39. To increase the volume of blood in their bodies. 40. It prevents patients from using expired drugs / prevents body poisoning. 41. (a) Mulching.
(b) To facilitate germination of seeds / encourage the establishment of roots / prevent wilting and drying of crops.
(c) (i) Afforestation — Controls soil erosion.
(ii) Crop rotation — Adds some nutrients in the soil /controls soil erosion / recycles plant nutrients. 42. (a) Respiratory system.
(b) It causes respiratory diseases.
(c) Avoid bad peer groups /get involved in construction hobbies /sensitizing people about dangers of smoking /involve in constructive hobbies. |
|---|--|