



SUREKEY EXAMINATIONS BOARD

PRE PLE UNIQUE SERIES

2022

INTEGRATED SCIENCE

Time Allowed: 2 hours 15 minutes

Index No.						Personal No.		

Candidate's Name:

Candidate'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 **16** printed pages.
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 body organ that makes vitamin D.

.....

2. What form of mechanical energy is possessed by water boiling in a saucepan put on a burning charcoal stove?

.....

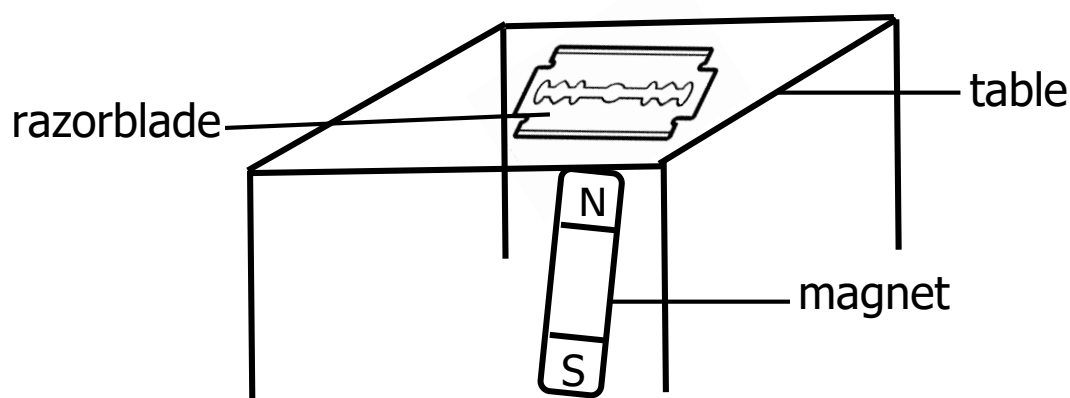
3. Give any **one** way in which nitrogen fixing bacteria benefit from root nodules.

.....

4. In which way does gonorrhea increase the chances of contracting HIV/AIDS to an individual?

.....

The diagram below shows a property of magnets. Study and use it to answer questions **5** and **6**.




5. What property of magnets is shown in the diagram above?

.....

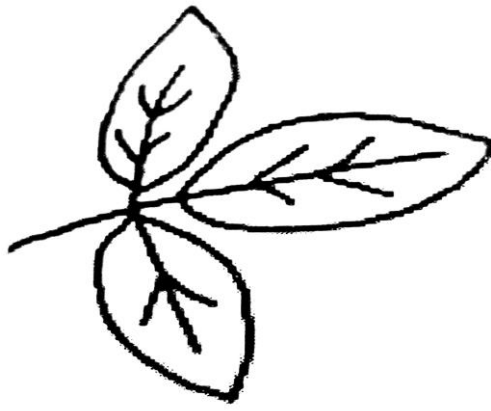
6. Give the importance of the above property of magnets to people.

.....

7. Which disease in goats is controlled by carrying out hoof trimming?
.....
8. State any **one** way in which regular taking of marijuana affects the health of an individual.
.....
9. How is a frog able to live comfortably both in water and on land?
.....
10. Name the physical process that enables the toilet urinal cakes to produce pleasant smell when put in the latrine.
.....
-
11. In which **one** way are the toothpicks important in the promotion of oral and dental health care?
.....
12. Which chemical process involves changing sugar in juice into alcohol?
.....
13. Name the sheet of muscles that separates the abdominal cavity from the chest cavity.
.....
14. Why is the kink in a clinical thermometer bent?
.....
15. Give any **one** danger of silting to aquatic animals.
.....

16. State any **one** way of controlling diarrhoeal diseases in the community.
.....
17. Why should a heat source be put in a brooder when caring for chicks?
.....
18. Which part of a mushroom has the same function as the anthers of a flower?
.....
19. State any **one** reason why cinema halls are covered with soft porous materials.
.....
20. Give **one** way in which houseflies affect the sense of seeing in human beings.
.....
21. Give any **one** vitamin deficiency disease in humans. 
.....
22. State any **one** way in which propolis is useful to honey bees.
.....
23. State any **one** characteristic of a Ventilated Improved Pit latrine (VIP) latrine.
.....

The diagram below shows a compound leaf. Study and use it to answer the questions **24** and **25**.



24. Identify the compound leaf shown in the diagram above.

.....

25. Write down any **one** plant that has the compound leaf shown in the diagram above.

.....

26. State the importance of rennin in the stomach of babies.

.....

27. Name the vaccine given to adolescent girls to protect them against tetanus during menstruation period.

.....

28. Why is a wheelbarrow regarded as a simple machine?

.....

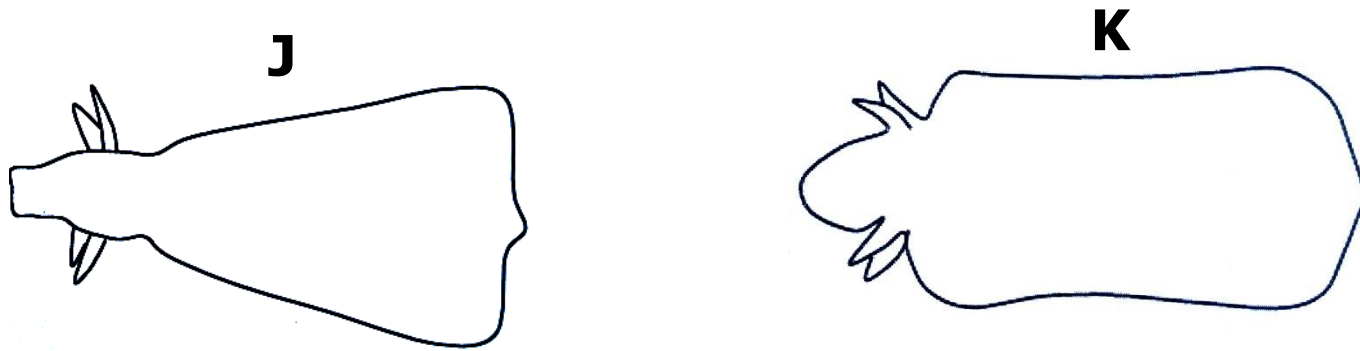
29. In which way does the production of biogas help to promote sanitation in an area?

.....

30. Which important activity is carried out by the cortex in the kidney?

.....

The diagram below shows shapes of types of cattle. Use it to answer questions **31** and **32**.



31. What type of cattle has the shape marked with letter **K**?

.....

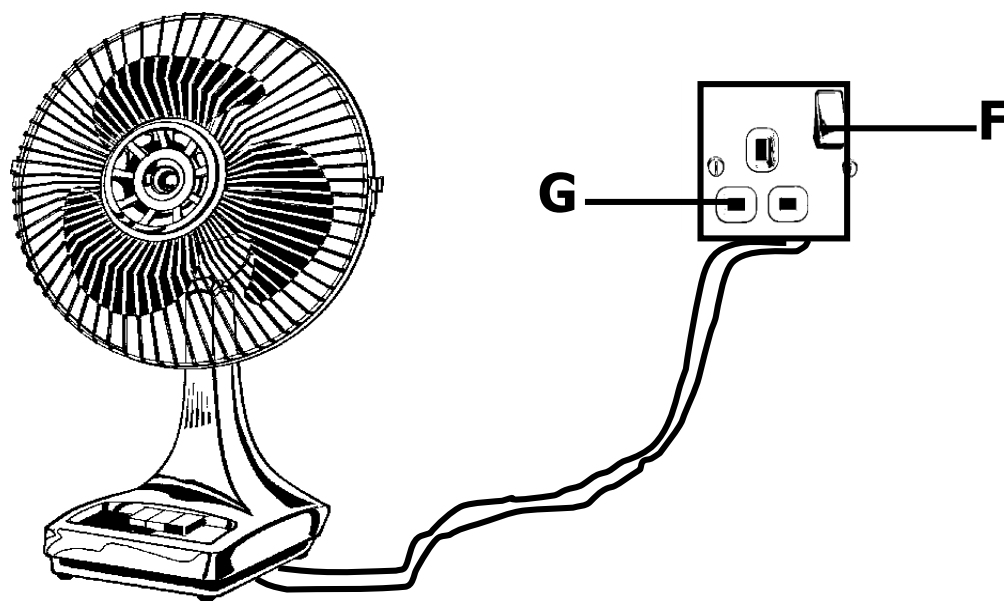
32. Name any **one** breed of cattle that has the shape marked with letter **J**.

.....

33. How do crop farmers reduce the rate of transpiration when planting banana suckers?

.....

The diagram below shows an electronic device. Use it to answer questions **34** and **35**.



34. Name the part marked **G**.

.....

35. What energy change takes place in the electronic device above when part **P** is turned on ?

.....

36. State any **one** way of controlling snuffles in rabbits.

.....

37. Name the alloy used to fill holes in the tooth.

.....

38. What property of air supports the weight of car tyres on the ground?

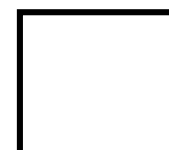
.....

39. What is the importance of sugar when preparing Oral Rehydration Solution (ORS)?

.....

40. In which way is the function of root hairs different from that of a root cap on a root system?

.....

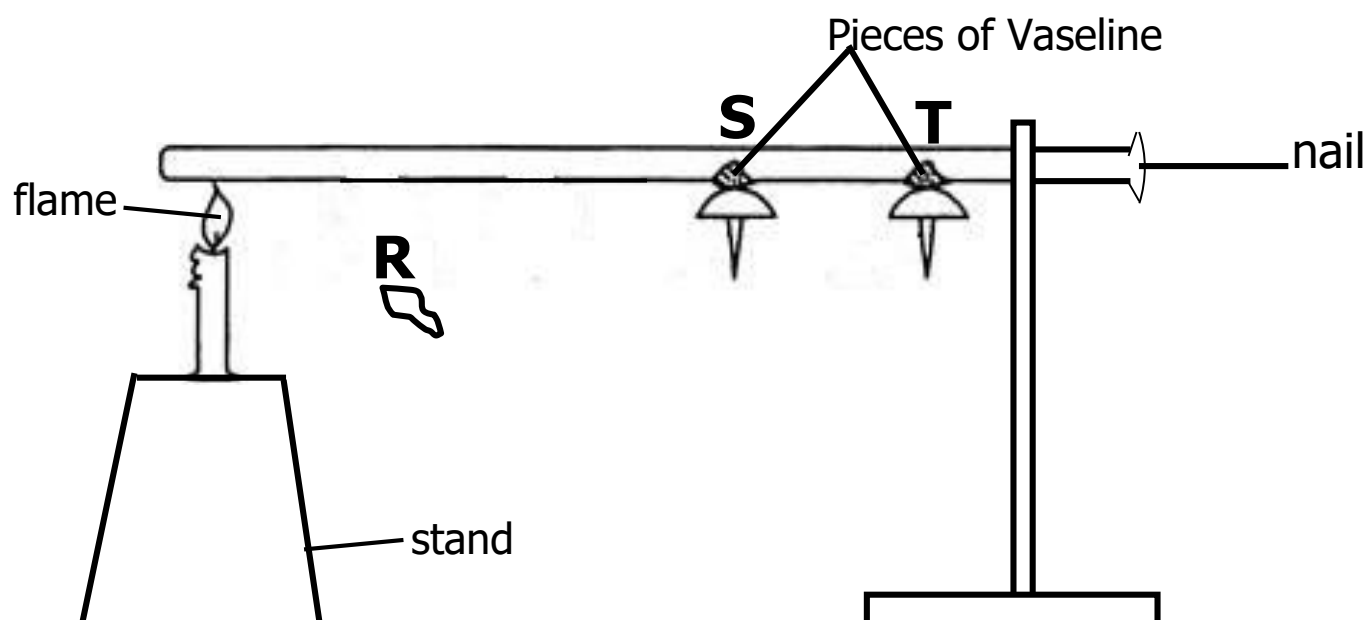


SECTION B: 60 MARKS

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

41. a) State the importance of each of the following components in the water cycle.
- (i) the sun
- (ii) plants
- b) Mention any **one** physical process involved in a water cycle.
-
- c) Give any **one** disadvantage of the element of weather formed from water cycle to the environment.
-
42. a) Write down any **two** causes of soil erosion in hilly areas.
- (i)
- (ii)
- b) How does terracing help to control soil erosion in hilly areas?
-
- c) Apart from terracing, state any **one** other way of controlling soil erosion in hilly areas.
-

43. The diagram below shows an experiment carried out about heat transfer. Study and use it to answer the questions that follow.



- a) Which method of heat transfer is demonstrated using the above experiment?
-
- b) Why does the piece of Vaseline marked **R** fall first as shown in the experiment above?
-
- c) What is the importance of using pieces of Vaseline when carrying out the above experiment?
-
- d) State any **one** effect of heat on the pieces of Vaseline used in the experiment above.
-



44. a) Name the source of energy for each of the following energy resources.

(i) hydroelectricity

(ii) thermal energy

b) State any **one** advantage of using hydroelectricity over thermal energy.

.....

c) Give any **one** reason why solar energy is used by few people in the community.

.....

45. a) Which group of birds feed on leftover flesh (carrion)?

.....

b) Give any **two** examples of birds that belong to the above group.

(i)

(ii)

c) State any **one** way in which the group of birds given in (a) above are important in the environment.

.....

46. The table below shows the pieces of information carried out by a poultry farmer. Study and use it to answer the questions that follow.

Month	September	Breeds of chicken	exotic
Age of the flock	4 months	Number of chicken	100 birds

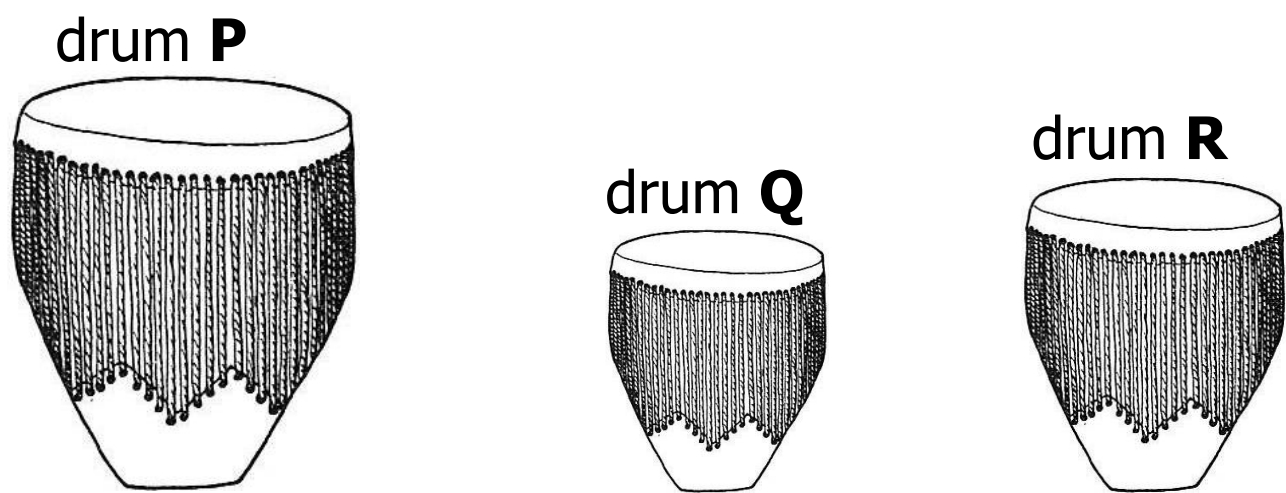
Number of eggs					
Day	Morning	Afternoon	Broken	Good	Total
Monday	50	40	10	80	90
Tuesday	55	46	none	111	111

- a) Identify the pieces of information shown in the table above.
.....
- b) State any **one** reason why the above pieces of information is important to a poultry farmer.
.....
- c) Give any **one** factor that might have caused the drop in the number of eggs collected on Monday.
.....
- d) What type of chicken is kept by the poultry farmer according to the above information?
.....



47. a) Name any **two** things that attract insects to pollinate flowers.
- (i)
- (ii).....
- b) State any **two** differences between insect pollinated flowers and wind pollinated flowers.
- (i)
-
- (ii)
-

48. The diagram shows three drums of different sizes. Study and use it to answer the questions that follow.



- a) Identify the drum that will produce sound of the highest pitch.
-
- b) Why will the drum identified in (a) above produce sound of the highest pitch?
-
- c) State any **one** factor that determines the pitch of sound produced by the above drums.
-

- d) Name the group of musical instruments in which you would put the above drums.

.....

49. a) Give any **one** way in which joints are adapted to friction free movement.

.....

- b) State any **two** importance of having regular physical exercises to the body.

(i)

(ii).....

- c) Apart from having regular physical exercises, give any **one** other health practice that helps to keep the muscular skeletal system in a good working condition.

.....



50. a) Mention any **two** foreign bodies that can enter into the eye.

(i).....

(ii)

- b) Give any **one** first aid you can give to a person who has foreign bodies in the eye.

.....

- c) Why is it not advisable to give food or drinks to a convulsing victim?

.....

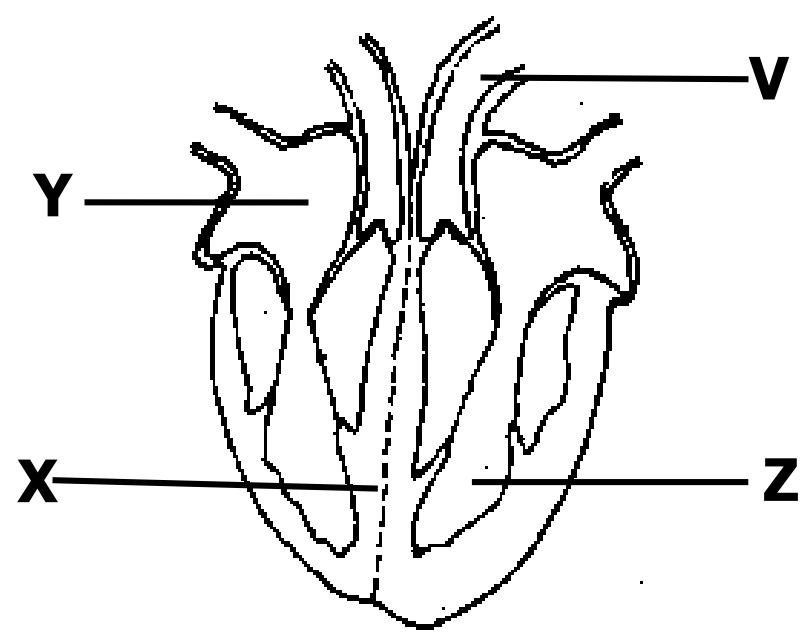
51. The table below shows some common crop growing practices, materials used and their importance in the garden. Study and complete it correctly.

Crop growing practice	Material used	Importance in the garden
.....	hand hoe	Reduces competition for nutrients between crops and weeds.
Mulching	dry grass
.....	forked hoe	Makes the surfaces of the soil levelled.
pruning	Reduces the weight of the plant.

52. a) Name the eye defect which is corrected using a convex lens.
-
- b) Give any **two** causes of the eye defect named in (a) above.
- (i)
- (ii)
- c) Why is the convex lens used to correct the eye defect named in (a) above?
-



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



a) Name the parts marked **V** and **Y**.

(i)

(ii).....

b) State the function of part marked **X** in the human heart.

.....

c) How is part marked **Z** able to pump blood at a higher pressure?

.....

54. a) State the function of a reflector in a torch.

.....

b) Why doesn't a dry cell powered torch have the fuse?

.....

c) Give any **two** factors that may make a torch fail to produce light when the switch is turned on.

(i)

(ii)

55. The diagram below shows a medical document used in the promotion of the elements of one of the elements of Primary Health Care. Study and use it to answer the questions that follow.

District _____		Child's registration No: _____	
Health Unit _____		_____	
Child's name: _____		Birth weight (Kg): _____	
Sex _____	Date of birth _____		
	Day	date	year
		Birth order: _____	
Mother's name: _____		Mother's occupation: _____	
_____		_____	
Father's name: _____		Father's occupation: _____	
_____		_____	
Where the child lives: _____			
Sub-county/ Division: _____			
Parish: _____			
LC1: _____			

- a) Identify the medical document shown in the diagram above.
-
- b) State any **one** way in which the medical document above is important to a health worker.
-
- c) Name any **one** vaccine that the body receives first basing on the above medical document.
-
- d) Which element of Primary Health Care involves the use of the above medical document?
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