THE SIPRO MOCK 2023

INTEGRATED SCIENCE

Time Allowed: *2 Hours 15 Minutes*

Index No.	Random No.						Personal No.		

Candidate's Name: _____

Candidate's Signature: _____

School Random No. _____

District: _____

READ THE FOLLOWING INSTRUCTIONS CAREFULLY:

1. This paper has two sections: **A** and **B**.
2. Section **A** has **40** questions (**40** Marks).
3. Section **B** has **15** questions (**60** Marks).
4. Attempt all questions in both sections. All answers to both sections **A** and **B** must be written in the spaces provided.
5. All answers must be written in blue or black ball point pens or ink. Only diagrams and graph work must be done in pencil.
6. Unnecessary alteration of work will lead to loss of marks.
7. Any handwriting that cannot be easily read may lead to loss of marks.
8. Do not fill anything in the boxes indicated: **"FOR EXAMINER'S USE ONLY"**

For Examiner's Use Only;

PAGES	MARKS	INITIALS
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Page 9		
Total		

Please turn over

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SECTION A: 40 MARKS

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

1. Name the part of a lever that lies between the effort and the fulcrum.

_____

2. Which food value is obtained from eating food from legumes?

_____

3. How are antennae on an insect similar in function to the skin in mammals?

_____

4. State **one** activity done by bee keepers to attract bees to occupy a new hive.

_____

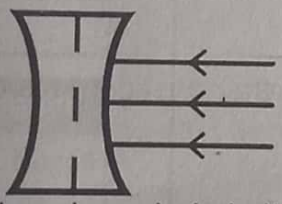
5. Give a reason why a person suffering from diarrhoea should be given treatment for dehydration.

_____

6. Name any **one** exotic breed of goats kept for milk production.

_____

7. In the diagram below, draw the light rays as they pass through the the given lens.



8. In which way does wearing shoes help in the prevention of anaemia?

_____

9. Name the reproductive cells in most fungi.

_____

10. State the role of the brain in the process of hearing.

_____

11. How are spiders helpful in the control of malaria in a home?

_____

12. Apart from high temperature, name any other agent that contributes to the weathering process during soil formation.

_____

13. Write the importance of the blubber to aquatic animals like whales and dolphins.

14. How are red blood cells able to carry oxygen in the human body?

15. Name the disease of the heart caused by regular smoking of tobacco.

16. Write any **one** way a sheep farmer can identify a sick sheep on the farm.

17. Where in plants does fertilization take place?

18. How does paddock grazing help to control the spread of tickborne diseases amongst cattle?

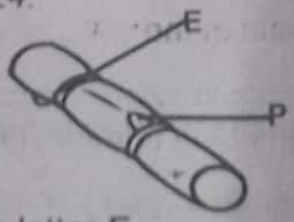
19. State **one** effect of polio to an individual.

20. How is the liver important during the process of digestion?

21. State **one** primary sex characteristic that is common in both adolescent boys and girls.

22. Give the role of sunlight during the process of photosynthesis.

The diagram below is of part of a sugarcane. *Study and use it to answer questions 23 and 24.*



23. Name the part marked with letter E.

24. Give **one** function of part marked with letter P on the diagram.

25. In which way are humps important on busy roads?

26. How is the process of digestion important in the human body?

27. Why is it difficult to put off petrol fire using water?

28. State any **one** practice done to conserve soil in hilly areas.

29. Name the region of the kidney where urine is formed.

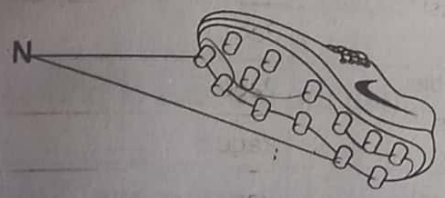
30. How is a biological change similar to a chemical change?

31. Why is it important to wear clean clothes?

32. Give a reason why school children are advised to abstain from sex until marriage.

33. Name the process in plants that helps in rain formation.

The diagram below is of a sports shoe. *Use it to answer question 34.*



34. Why are structures marked with letter **N** useful to a football player on a rainy day?

35. State any **one** characteristic of images formed by plane mirrors.

36. Which form of smoking is suffered by family members whose father comes back home while smoking?

37. Why should parents feed their children on a balanced diet?

38. How are plant roots able to absorb water and mineral salts from the soil?

_____

39. In which way is taking an underdose dangerous to the health of a sick person?

_____

40. State any **one** activity in a home which requires the use of the decantation method.

_____

SECTION B: 60 MARKS

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

41. a) Name the type of germ which causes measles.

_____

b) Mention **one** sign and **one** symptom of measles in infants.

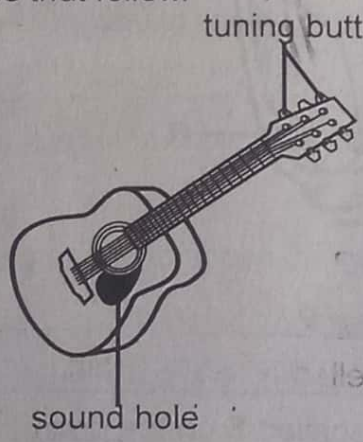
i) sign _____

ii) symptom _____

c) Give a reason why the measles vaccine is not administered to babies at birth.

_____

42. **The diagram below shows a musical instrument.** *Study and use it to answer the questions that follow.*



a) To which group of musical instruments does the one drawn above belong?

_____

b) How does the musical instrument drawn above produce sound?

_____

c) State the function of the following features indicated on the guitar above.

i) sound hole _____

ii) tuning buttons _____

43. *Match the body organs in list* **A** *with their functions in list* **B**.

List A	***List B***
liver	detects smell
brain	stores vitamins and mineral salts
lungs	balances the body
nose	for breathing

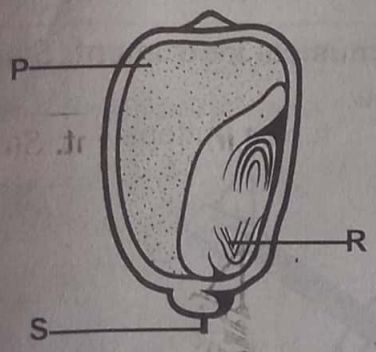
i) brain _____

ii) liver _____

iii) nose _____

iv) lungs _____

44. **The diagram below shows a maize grain.** *Study it carefully and use it to answer the questions that follow.*



a) Name part marked with letter **P**.

_____

b) State the function of part labelled **S** on the grain.

_____

c) What does part labelled **R** develop into after germination?

_____

d) Give the reason why a maize grain is regarded as a fruit.

_____

45. a) Name the pole of a magnet from which the lines of force run.

_____

b) Which method enables a piece of iron attached to a permanent magnet gain magnetism?

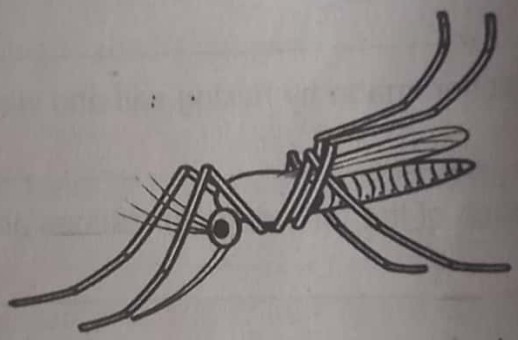
_____

c) Mention any **two** ways of making a magnet lose magnetism.

i) _____

ii) _____

46. **The diagram below shows an adult stage of a mosquito.** *Study and use it to answer the questions that follow.*



a) Identify the type of mosquito shown in the diagram above.

_____

b) Use letter **P** and a label to show the part a mosquito uses for feeding.

c) How is the mosquito drawn above dangerous to people's health?

_____

d) How can mosquitoes at the stage shown above be controlled in a community?

_____

47. a) Mention any **two** activities in which inclined planes can be used in our daily life.

i) _____

ii) _____

b) Give two ways people using inclined planes can increase on their working rate.

i) _____

ii) _____

48.a) Name the structures on poultry feet that enable them scratch the ground as they look for food.

_____

b) State any **two** factors considered when choosing the type of mash to be given to poultry.

i) _____

ii) _____

c) Give any **one** factor that may lead to low egg production on a poultry farm.

_____

49.a) Name the solution made by mixing salt and water.

_____

b) What does each of the following substances act as in the solution formed?

i) salt _____

ii) water _____

c) How can salt be recovered from such a solution?

_____

50.a) What form of energy is stored in dry cells?

_____

b) State the energy change which occurs in a functioning dry cell.

_____

c) Name the non-metallic conductor of electricity in a dry cell.

_____

d) Which form of current electricity is produced by a dry cell?

_____

_____

51. **The diagram below shows a common accident at home.** *Study and use it to answer the questions that follow.*

a) State **two** possible accidents which may occur from the situation above.

i) _____

ii) _____

b) State the first aid which can be given to the baby in case of any of the accidents mentioned in (a) above happens.

_____

c) What can be done at home to prevent such accidents from happening?

_____

52. a) Name the mineral element which is absent in breastmilk.

_____

b) State **one** way in which breastfeeding is important in each of the following situations:

i) promoting the health of the baby

_____

ii) promoting child spacing in a family

_____

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

_____

53.a) Give the function of the following parts on a thermos flask:

i) double silvered walls _____

ii) vacuum _____

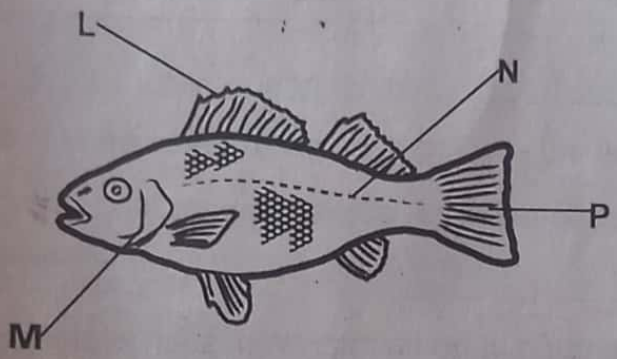
b) Name **one** material from which the cork of a thermos flask is made.

_____

c) Write any **one** way of caring for a thermos flask.

_____

54. **The diagram below is of a fish**. *Study and use it to answer the questions that follow.*



a) Name the part marked with letters;

i) **L** _____

ii) **M** _____

b) Give the function of these parts on a fish.

i) **N** _____

ii) **P** _____

55.a) State **two** importance of trees planted in the school compound.

i) _____

ii) _____

b) Mention any **two** ways in which pupils can care for the trees planted in the school compound.

i) _____

ii) _____

THE SIPRO PRIMARY SEVEN INTEGRATED SCIENCE MOCK MARKING GUIDE -2023

NO	CLASS LEVEL	CORRECT ANSWER	WRONG ANSWER	MARKING POINT	TECHNICAL ADVICE/ COMMENT
1.	P.7	Load	pivot	Middle part of a second class lever	Use real tools to display the classes of levers and the positions of the load effort and pivot.
2	P.4	Proteins	Body building food	Should be the real name rather than the descriptive name	Discuss the sources of food and their food values.
3	P.3	Both the antennae and the skin are used for feeling/ Both the skin and antennae are organs for feeling /Both are used to detect temperature	Antennae are used for feeling	Response should be in line with both Antennae and the skin; should be a comparison response.	Compare parts of animals to those of the human body in terms of function.
4	P.5	Smearing honey inside the new hive /placing a sugar solution inside the hive /planting flowering plants near the new hive.	Stocking the hive	An activity that attracts bees into a hive	Organise detailed revision work on bee keeping and thoroughly hold a detailed discussion about bee keeping.
5	P.4	To replace the lost water and mineral salts in the body / To enable the diarrhoea patient get energy/ To prevent dehydration	To prevent diarrhoea	Rehydration of the body	Go through ways of managing different communicable diseases.
6	P.5	Saanen /Alpine /Toggen burg/ Anglo-Nubian	Mubende /Angora	Dairy breeds of goats	Discuss the advantages and disadvantages of different breeds of animals and steps to improvement of animal breeds.
7	P.7			Diverging effect of a concave lens on a parallel beam	Help candidates master the effects of different lenses on a beam of light.
8	P.4	Shoes prevent hookworm penetration into the feet / shoes prevent hookworms that suck blood from penetration into bare feet/ shoes prevent cuts that may lead to loss of blood.	Shoes protect the feet	Prevention of blood loss.	Train candidates on proper answering techniques.
9	P.5	Spores	By means of spores	Gametes in fungi	Discuss the modes of reproduction in different organisms
10	P.6	The brain interprets sound impulses.	The brain receives impulses	Role of the brain in the hearing process.	Revise through the parts of the ear and their functions.

11	P.6	Spiders feed on adult mosquitoes that spread malaria.	Spiders trap mosquitoes	Trapping and feeding on mosquitoes	Discuss the several ways of vector control and control of communicable disease.
12	P.5	Animal movement /fast flowing water /wind	Sun's heat	Agents of weathering	Remind the learners on the methods of soil formation.
13	P.6	The blubber prevents heat loss from a whale's body / The blubber shields the body against heat loss.	The blubber keeps the body warm	Importance of blubber	Help candidates know the adaptations of different animals to their habitats.
14	P.6	Red blood cells have a disc shape /are disc shaped / have haemoglobin.	Red blood cells are many	Adaptations of red blood cells	Discuss the functions and adaptations of blood components.
15	P.6	Coronary heat disease /coronary artery disease	Diabetes	Disease of the heart caused by smoking	Organize summarized work on the heart, blood and blood vessels.
16	P.5	When the sheep has a nosal discharge / wounds on the feet /painful udder and teats / wounds on the udder and teats / running nose /watery eyes /limping in the sheep.	The sheep moves up and down	Signs and symptoms of diseases/infections in sheep	Go through the effects of infections to livestock.
17	P.4	In the ovary	In the stigma	Part where pollen fuse with ovules.	Revise the parts of a flower and their functions.
18	P.6	Paddock grazing breaks the life cycle of ticks /starves ticks to death.	Paddocks prevent cattle from ticks	Breaking the life cycle of ticks	Discuss the advantages and disadvantages of paddock grazing.
19	P.5	Polio causes lameness / causes paralysis of limbs / deformation of bones /weakness in the limbs	Polio makes a person weak	Effect of polio to bones	Organise revision questions on immunisable diseases and all about it.
20	P.5	The liver produces bile juice.	The liver breaks down food	Production of bile juice	Use a model of the digestive system and go through the functions of the parts.
21	P.6	Production of reproductive cells begin /production of sex hormones begins.	The penis enlarges	Common characteristics in female and male adolescents	Help learners to understand the different characteristics in adolescents.
22	P.4	Sunlight breaks water into oxygen and hydrogen/ sunlight provides energy needed for photosynthesis.	Sunlight helps plants to make food	Role of sunlight in photosynthesis	Go through germination and photosynthesis.
23	P.4	Node	Internode	Correct name of labelled part.	Get a real sugarcane stem and discuss the parts in a detailed way.
24	P.4	Part P develops into the shoot system /develops into a leaf.	Part P develops into roots	Part P grows into the shoot	Help candidates know the difference between the axillary bud and the

					lateral bud.
25	P.2	Humps reduce the speed of vehicles.	Humps control accidents	Reduction of speed.	Brainstorm on ways of controlling road accidents.
26	P.5	Digestion helps to break down food into soluble particles.	Digestion enables food to be absorbed in the blood stream	Importance of digestion	Revise the importance of different body processes.
27	P.5	Petrol floats on water and continues burning / petrol is less dense than water so it floats and continues to burn.	Petrol burns so much	Density of petrol compared to that of water.	Train learners on ways of putting out fire in various ways in case of an outbreak.
28	P.5	Terracing /afforestation/strip cropping /afforestation /contour ploughing	Mulching	Control of soil erosion in hilly areas.	Use the school garden to teach candidates on ways of conserving soil.
29	P.7	cortex	Medulla	Part of the kidney where the blood is filtered.	Use the cattle kidneys to elaborate more about the parts of a kidney and their functions.
30	P.5	Both chemical and biological changes are irreversible /can't be reversed.	Biological change is reversible while a chemical change is irreversible	Correct similarity of a biological and chemical change.	Go through the types of changes and their characteristics as well.
31	P.6	Prevents a bad body smell /prevents easy spread of communicable skin diseases / prevents a bad odour.	Makes the body clean	Reasons for wearing clean clothes.	Practically discuss the processes of cleaning clothes and the importance of each.
32	P.3	To prevent childhood pregnancy/ To prevent themselves from getting HIV/AIDS / To prevent school dropout.	To prevent diseases	Importance of PIASCY messages	Engage candidates in group discussion especially as a way of aiding lower classwork concepts.
33	P.4	Transpiration	Photosynthesis	Plant process involved in the water cycle	Perform an experiment about the water cycle with the learners to enable them understand it better.
34	P.7	Structures N increase friction to prevent the football player from sliding in the field.	To increase friction	Prevention of the football player from falling	Remind the learners on the ways of increasing or reducing friction respectively.
35	P.7	The Images are upright /erect/laterally inverted /are of the same size as the object /virtual	The Images are upside down	Characteristics of Images formed by plane mirrors	Help learners with the real plane mirrors to discuss the Images formed there-in.
36	P.6	Passive smoking	Active smoking	Type of smoking where an individual inhales tobacco smoke	Emphasize to the individual, family and community.

37	P.4	To prevent deficiency diseases /stunted growth /To promote good health.	To be fine	Reasons for feeding on a balanced diet	Revise the significance of different food values in the body.
38	P.6	Plant roots have root hairs that absorb water and mineral salts.	By osmosis	Structures on a plant that absorb water and mineral salts from the soil	Take candidates through adaptations of a plant to different processes
39	P.6	Underdose leads to prolonged sickness/slow recovery.	Leads to drug abuse	Effect of underdose to human health	Differentiate between drug abuse and drug misuse.
40	P.6	Preparing clean water for washing clothes/mopping /washing utensils	Preparing drinking water	Preparing water by decantation	Discuss the method of preparing clean water and safe water.
			SECTION B		
41	P.5	a) Virus	a) Bacterium	Germ that causes measles	Revise the immunization schedule involving vaccines, body sites and methods of vaccine administration.
		b)i)Red eyes /dry cough /skin rash	b) High fever		
		ii) High fever/Itching skin	Skin rash	Indicators of measles vaccine	
		c)A baby is born with enough immunity against measles that lasts for nine months.	A baby has immunity	Validity period for the measles vaccine	
42	P.6	a) String musical instruments	Wind musical instrument	Musical instruments with strings.	Use real musical instrument to teach about production of sound by different objects.
		b) By vibration of the strings when plucked	By plucking the strings	Vibration of sting	
		c) i) To let out sound	To produce sound	Importance of a sound hole	
		ii) For changing /altering the length of the strings	To changing pitch	Role of the pegs	
43	P.4	i)balances the body ii)stores vitamins and mineral salts iii) detects smell iv) for breathing	i)Detects smell (ii)balances the body iii) for breathing iv) stores vitamins and minerals salts	Correct functions of body organs	Revise the role of different body organs and how to care for them.
44	P.4	a) Endosperm	Testa	Part that stores food in a	Use a well drawn chart to discuss the function of the parts of monocot and dicot seeds.
		b) For attachment of the grain to the cob.	For protection	maize grain Correct use of a stalk scar	
		c) Root system	Shoot	Function of the radicle	
		d) A maize grain has the stalk scar and style scar /Has two scars	Stores food	Presence of two scars	
45	P.7	a) North pole	South pole	Flow of magnetism	Go through the properties of magnets and carry them out practically.
		b) Induction method	Stroked method	correct method defined	

		c) Over heating the magnet /keeping like poles together for long /strong hitting /leaving a magnet to rust	Mishandling the magnet	Demagnetisation of magnets	
46	P.3	a) Female anopheles mosquito	Tiger mosquito	Mosquito that lies at an angle.	*Discuss the insect vector life cycles and the danger of each stage to people's health.*
				Part that a mosquito uses for feeding	
		c)spreads malaria to people / spreads plasmodia germs	Spreads yellow fever	Diseases spread by malaria germs	
		d)By spraying using insecticides /clearing tall bushes near the home	By killing them	Control of adult mosquitoes /ways of killing adult mosquitoes.	
47	P.7	a) Loading heavy goods on vehicles/ roofing houses /moving to upper floors of storeyed building /painting buildings /loading animals on vehicles	-Doing work with less effort	Uses of inclined planes	Uses real machines to explain the ways simple machines simplify work. Emphasis should be put on all groups of simple machines.
		b)By making the slanting surfaces longer /By putting rollers on the slope /By reducing the angle of inclination	By oiling the slanting surface	Making inclined planes use less effort	
48	P.6	a) Claws/Talons	Strong feet	Scratching parts of a bird	Visit a nearby poultry farm and get a demonstration on the feeding of poultry and other management practices.
		b) type of poultry /age of poultry	Group birds	Determination of poultry feeds.	
		c)poultry diseases/poor feeding /poor housing /little space in the coop	Poor breeds	Causes of low egg production	
49	P.5	a) salt solution	Oral rehydration solution	Correct name of solution.	Practically separate different mixtures with the candidates to enhance concept retention.
		b)i)solute ii)solvent	Solid Liquid	Correct scientific names.	
		c)By Evaporation to dryness/crystallization	Filtration	Correct method of separating salt from salt solution	
50	P.7	a) chemical solution	Electrical energy	Energy stored in a dry cell	*Give chance to candidates to set up a simple circuit and discuss the functions of the parts.*
		b)chemical energy changes into electrical energy	Electrical energy into chemical energy	Energy change in a dry cell	
		c)carbon rod	Electrolytic paste	Form of current electricity in a dry cell	
		d) direct current /DC current	Alternating current	Non electric conductor in a dry cell.	

51	P.4	a) Burns /scalds	cuts	Accidents caused by heat	Discuss the types of accidents and their control in the community.
		b) pouring cool water on the injured part /Dip the injured part in cold water	Taking her to the hospital	Immediate help given to a scalded or burnt person.	
		c) Raising cooking places /putting fireguards on cooking places/Guiding children as they cook	Stopping children from cooking	Prevention of burns and scalds	Also discuss First Aid and First Aid kit practically.
52	P.5	a) Iron	Iodine	Mineral salt absent in breast milk	Revise the modes of feeding in a baby, their advantages and disadvantages.
		b)i)Breastmilk boosts the body immunity /provides most of the food values to the baby.	Prevents disease attack	A way breast milk promotes health.	
		ii) Breastfeeding delays ovulation	Prevent reproduction	Delay of ovulation	
		c) To allow more production of breastmilk from mammary glands	To prevent dehydration	Reason for feeding a breast feeding woman on plenty of fluids	
53	P.5	a) i) prevent heat loss or gain by radiation ii)Prevents heat loss or gain by conduction or convection.	Prevent heat loss by conduction or convection Prevents heat loss by radiation.	Prevention of heat loss by given parts.	With the help of a vacuum flask, discuss the parts of a flask and their uses.
		b) Plastics /wood	Metals	Material used to make the cork	
		c) Keeping it out of children's reach /handling it with care /Regular washing of the flask	Keeping tea in it	Care for a vacuum flask.	
54	P.3	a)i)Dorsal fin	fin	name of fin	Always use real objects to aid mastery of concepts that can be handled practically.
		ii)Operculum	gills	correct name	
		b)i)N-detects sound waves in water /senses danger in water.	for movement	Use of a lateral line	
		ii) P-Helps in forward movement of fish/changing direction in water.	for swimming in water	Use of the tail fin	
55	P.3	a)Trees control soil erosion/are windbreaks /provide fresh air /provide fruit /provide shade	For sale	Use of trees in the school compound	Start a wood lot project to equip candidates with skills on tree growing and environmental conservation.
		b)By watering /pruning / spraying using pesticides /putting guards around a tree.	By thinning	Care for trees in the compound	