

THE SIPRO PRE-PLE SET V 2022

INTEGRATED SCIENCE

Time Allowed: 2 Hours 15 Minutes

Index No.	Random No.	Personal No.

Candidate's Name: _____

Candidate's signature: _____

School Random No. _____

District ID: _____

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 8		
Page 9		
Total		

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THE SIPRO EDUCATIONAL SERVICES LIMITED - KAMPALA

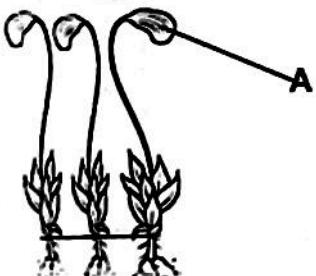
PUBLISHERS OF THE SIPRO TEACHERS' GUIDES, LEARNER'S WORKBOOKS & PUPIL'S COMPANIONS

SECTION A: 40 MARKS

Questions 1 to 40 carry one mark each.

1. Name any one part of a cockroach that it uses to carry germs.
2. Mention any one household item that is a product of bee-wax.
3. Why is it important for a cattle farmer to keep records on his farm?
4. How is a crutch useful to a person who has got a fracture?
5. Mention one condition necessary for rusting to occur.
6. Why is a drum grouped under percussion musical instruments?
7. Which part of the female reproductive system produces hormones that control secondary sex characteristics in female adolescents?

Study the diagram of a non-flowering plant below. Study and use it to answer questions 8 and 9.



8. Name the part marked with letter A.
9. How does the plant shown in the diagram above reproduce?
10. Give one way of preserving milk and its products.
11. Which health problem is caused by the lack of vitamin A in the body?

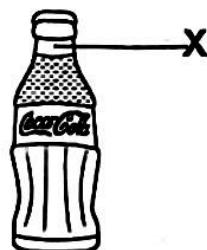
12. Why does a pencil put in a bucket full of water appear bent?

13. Give any one advantage of natural family planning methods over artificial ones.

14. State one cause of drug abuse among adolescents.

15. Why is it a good practice to washing hands before milking a cow?

The diagram below shows a bottle of soda. Use it to answer question 16.



16. State the importance of the space marked with letter X.

17. Give one product made from wool.

18. Why can't sound travel through a vacuum?

19. How is the epiglottis an important part of the respiratory system?

20. State one population and health concern caused by poor disposal of human waste.

21. How does a maize plant protect itself from falling during flowering time?

22. How does smoking done by the family head affect other family members in a home?

23. Name one organism that helps in soil formation by decomposition.



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IGNITE CRITICAL THINKING AND EXPERIENCE ACTUAL LEARNING WITH THE ACTIVITY BOOKS, SEMAS, TEACHER'S GUIDES & PUPIL'S COMPANION.

24. How are health parades important in a school?

25. State one way in which HIV/AIDS can be transmitted from the infected mother to the newly born baby.

26. State the first aid you would give to a friend with an insect in the ear.

27. Which change occurs when a snake sheds its old skin?

28. How is seasoning important in management of harvested wood?

29. In which way is oxygen important to a bean seed during germination?

Below is a diagram of an instrument commonly used in most retail shops. Use it to answer question 30.



30. Mention the importance of the instrument drawn in the diagram above.

31. How are blood platelets useful in the human body?

32. In which way is a cock's foot well suited for enabling it to feed on small soil organisms?

33. Give a reason why a rabbit hutch is constructed some metres off the ground.

34. How can a beekeeper protect beehives in an apiary from honey badgers?

35. State one way mulching maintains moisture in the soil.



36. Write any one cause of long sightedness.

37. In which way are animals similar to plants in the way they are naturally replaced when used?

38. Give one reason why images formed in a pinhole camera appear upside down.

39. How is reduced friction a danger to a person driving a vehicle?

40. What is the importance of regular spreading of beddings under sunshine?

SECTION B: 60 MARKS

Questions 41 to 55 carry four marks each

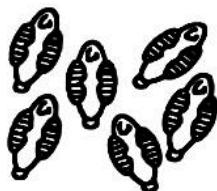
41. a) Apart from excess water, name one other component of urine.

b) Name the blood vessel that carries blood from the kidneys to the vena cava.

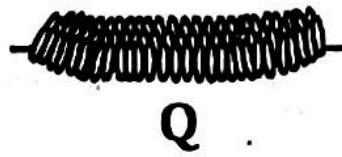
c) How is the work of the urethra different from that of the ureter in the urinary system?

d) State one habit in people that promotes the proper working of the kidneys.

42. Below are eggs of different kinds of mosquitoes. Study them carefully and answer the questions that follow.



K



Q

a) Identify the kind of mosquito which lays the eggs named with letter;

i) K _____

ii) Q _____



b) Name the disease spread by the mosquito that lays the eggs shown at K:

c) State one way people can control mosquitoes at the adult stage.

43. a) What is the main cause of fainting?

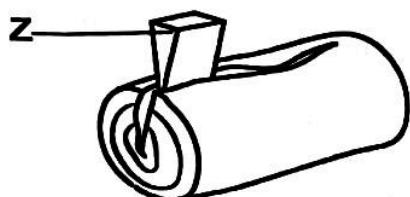
b) Give one condition that may lead to fainting.

c) How are each of the following important when giving first aid for fainting?

i) controlling bystanders?

ii) raising the casualty's legs slightly above the head level?

44. The diagram below shows a simple machine. Use it to answer the questions that follow.



a) To what group of simple machines does the one marked Z in the diagram above belong?

b) Write two examples of simple machines that belong to the same group as the one shown in the diagram above.

i) _____

ii) _____

c) Name the activity done by the help of the simple machine shown in the diagram above.

45. Complete the immunisation table below correctly.

Disease	Outstanding sign	Vaccine used
a)i) _____	lameness and muscle paralysis	Polio vaccine
b) Tetanus in infants	ii) _____	iii) _____
c) _____	iv) chronic cough	BCG vaccine



46. a) Name the blood cells manufactured in the following types of bones:

i) short bones _____

ii) long bones _____

b) In which part of the bones are blood cells manufactured?

c) Apart from manufacturing blood cells, give one other way the skeletal muscular system is useful in the body.

47. a) Give any two methods of rearing sheep.

i) _____

ii) _____

b) Give one reason why it is important to construct a shed for sheep.

c) Mention the activity a shepherd should do to ease mating in ewes.

48. a) State the property of magnets that enables one to;

i) find direction using a compass _____

ii) separate iron filings from sugar _____

b) Why does a razor blade get attracted to a magnet yet a handkerchief does not?

c) Apart from breaking into pieces, how else is strong hammering dangerous to a bar magnet?



49. a) State the use of sugar in ORS.

b) Apart from sodium, name the other mineral salt lost during dehydration.

c) Why should a dehydrated person be given a lot of soft drinks?

d) State the recommended number of spoonfuls of sugar applied in one litre of locally made ORS.

50. a) Mention two local activities that involve the distillation process at home.

- i) _____
ii) _____

b) State any one cause of silting in water sources.

c) Give any one way silting affects water bodies.

51. a) Give the importance of the following activities as carried out in a banana garden:

- i) propping _____
ii) weeding _____

b) Give one advantage of proper spacing of crops in the banana garden.

c) What practice is done by farmers to banana suckers to reduce the rate of transpiration after planting?



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52. A P.5 child of a certain school put ice blocks in a container and heated them for about 5 minutes as shown in the diagram below. Study and answer the questions that follow.



a) What did the child see at the bottom of the newspaper after 5 minutes?

b) What had happened to the ice?

c) State the type of change which took place inside the nucleus.

d) Why is the firewood spaced in that way?

53. a) Name one living component of the soil.

b) Which method of soil formation involves breaking down of rocks?

c) How does soil erosion result into soil degradation?

d) Give any one way of controlling soil erosion in hilly areas.

54.a) Name any two examples of crops that store their food in leaves.

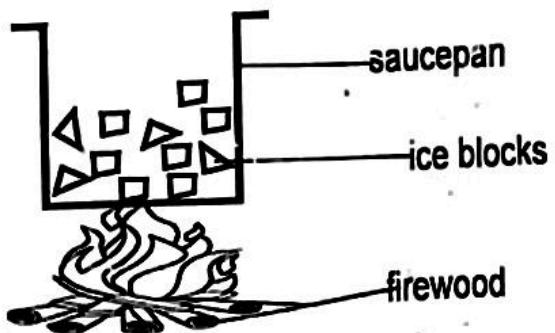
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b) Which part of the leaf transports water and mineral salts to other parts?

c) How does the size of the leaf affect the rate of transpiration?

52. A P.5 child of a certain school put ice blocks in a saucepan and heated them for about 5 minutes as shown in the diagram below. Study and use it to answer the questions that follow.



a) What did the child see at the bottom of the saucepan after 5 minutes?

b) What had happened to the ice?

c) State the type of change which took place inside the saucepan.

d) Why is the firewood spaced in that way?

53. a) Name one living component of the soil.

b) Which method of soil formation involves breaking down of rocks?

c) How does soil erosion result into soil exhaustion?

d) Give any one way of controlling soil erosion in hilly areas.

54. a) Name any two examples of crops that store their food in leaves.

i) _____

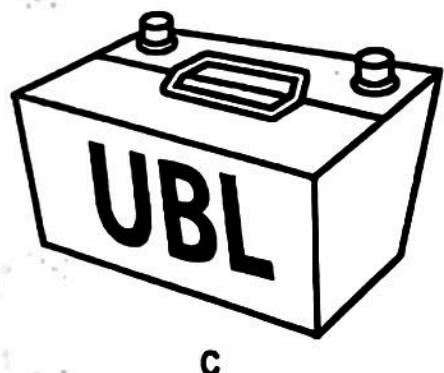
ii) _____

b) Which part of the leaf transports water and mineral salts to other parts?

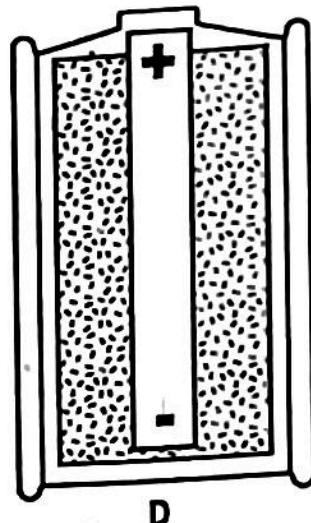
c) How does the size of the leaf affect the rate of transpiration?



55. The diagrams below show two electric cells. Study and use them to answer the questions follow.



C



D

a) Name the type of electric cell shown in the diagram named with letter:

i) C _____

ii) D _____

b) Which type of electricity is got from the electric cells shown in the diagrams above?

c) State one advantage of using electric cell C over electric cell D.



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THE SIPRO PRE – PLE SET V INTEGRATED SCIENCE MARKING GUIDE – 2022

NO.	CLASS LEVEL	CORRECT RESPONSE	MARKING POINT	WRONG RESPONSE	TECHNICAL ADVICE
1.	P.4	Legs/Mouth parts/Mandibles.	Hairy body.	Accept the parts cockroaches use to defaecate or vomit on food.	Revise ways different vectors spread germs.
2.	P.5	Candle/Shoe polish/Cosmetics.	Cooker	An appliance at home that is a product from wax.	Discuss the products of bees and their uses.
3.	P.6	To be taxed fairly/For easy access to loans/To know the number of animals on the farm/To enable budgeting for the farm	To make work easy.	Reason for keeping farm records.	Revise the farm management exercises.
4.	P.6/P.2/ P.4	Crutches help a fractured person to walk.	Crutches help in giving First Aid.	Uses of the crutch to a fractured person.	Use real objects to discuss the uses of different First Aid kit.
5.	P.5	Oxygen/Water/Moisture.	Warmth	Conditions necessary for rusting to occur.	Go through different types of changes and the conditions that favour them.
6.	P.6	A drum produces sound by vibration of the surface when hit/Struck.	A drum is hit to produce sound.	A way a drum produces sound.	Discuss the different groups of musical instruments and how they produce sound.
7.	P.7	Ovary	Oestrogen/ova.	Female gonads in girls/women.	Remind the candidates of the examples of gonads in both plants and animals.
8.	P.6	Spore case.	Cotyledons.	Part of a moss that stores spores.	Remind the candidates about the non-flowering plants and the details.
9.	P.6	By means of spores/Spore formation.	By seeds.	Reproduction in a moss plant.	Task the candidates to short list the reproduction modes in different organisms.
10.	P.6	Through refrigeration/Freezing/ Pasteurization/Canning/Tinning.	Through boiling.	Preservation of milk and its products.	Discuss the methods of food preservation.
11.	P.4	Night blindness.	River blindness.	A deficiency disease that leads to poor night vision.	Give trial exercises to candidates about deficiency diseases and food as a topic.
12.	P.7	Due to refraction of light.	Due to water.	Effect of refraction.	Help candidates to differentiate reflection and refraction.
13.	P.6	Natural Family Planning methods are easier to practice than artificial ones/	Natural family planning methods are effective.	Accept a complete comparison.	Discuss the natural and artificial family planning methods.

		Natural Family Planning methods are effective while artificial ones are ineffective.		
14.	P.6	Peer pressure/Desire to feel mature/ Desire to be brave/Low sexual performance/Stress/Idleness.	To feel mature.	Response should be a cause, not a reason. Train the candidates on proper question approach.
15.	P.6	To prevent contamination of milk/ To keep milk free from germs.	To be clean.	Reason for washing hands before milking. Task the candidates to list the animal management practices, and their importance.
16.	P.5	To provide room for increase in volume when frozen.	To keep carbon dioxide.	Increase in volume of the liquid. Help candidates recall the effects of heat on matter in a detailed and well elaborated way.
17.	P.5	Jackets/Carpets/Hats/Stockings/Bags.	Handkerchiefs.	Items made from wool. A simple discussion about natural and artificial materials is paramount.
18.	P.6	A vacuum lacks a medium of transmission of sound.	A vacuum is an empty sound.	Correct reason. Have a discussion on how sound moves in different states of matter.
19.	P.6	To close the trachea during Swallowing/ To prevent food from entering the wind pipe.	To prevent suffocation.	Use of the epiglottis to the respiratory system. Go through the importance of the epiglottis during swallowing.
20.	P.7	Poor sanitation/Poor water supply.	Anti – social behaviour.	Population and health concern. A thorough discussion about population and health concerns is paramount.
21.	P.4	By developing prop roots/By the help of prop roots.	By the help of the stem.	Adaptation of a maize plant to fruiting. Go through different adaptations of plants to their way of life.
22.	P.6	May lead to passive smoking/May lead to diseases like lung cancer or emphysema to the family members.	May lead to diseases.	Effects of smoking to the family. Go through dangers of smoking, alcoholism and drugs.
23.	P.3/P.5	Bacterium/Fungus.	Bacteria.	Accept singular form. Train candidates and put emphasis on proper approach.
24.	P.5	Promote personal hygiene amongst learners/Prevents a bad body smell amongst learners/Prevents easy spread of skin diseases.	Promotes cleanliness in the school.	Response should be in line with individual learners. Emphasis on principles of PHC and its elements is paramount. It will aid proper question interpretation.
25.	P.6	Through mixing of blood when cutting the umbilical cord/Use of unsterilized instruments when cutting the umbilical cord.	Through mixture of blood.	A way blood may mix. Go through control measures of HIV/AIDS.

26.	P.6	Pour cold water in the affected ear and bend on its side.	Try removing the insect.	Correct First Aid for an insect in the ear.	Assign candidates various exercises on different accidents and their management.
27.	P.5	Biological change.	Moult/biological change.	Type of change that helps a snake to get a new skin.	Discuss the types of changes, examples and characteristics.
28.	P.7	Seasoning enables wood to dry/ Seasoning prevents the bending of wood.	Seasoning helps wood to be preserved.	Importance of seasoning.	Go through proper management of harvested wood.
29.	P.3/P.4	Oxygen is needed for respiration/ Oxygen helps in energy formation.	Oxygen is used for breathing.	Role of oxygen during germination.	Compare germination and photosynthesis in terms of the conditions required for both processes.
30.	P.5	For measuring mass/Weight of the substance.	For measuring.	A specified quantity of measurement.	Discuss the quantities of measurements with the specific units.
31.	P.6	Platelets help in clotting blood.	Platelets transport digested food.	Role played by platelets in blood.	Task the candidates to discuss the blood components and their uses in small groups.
32.	P.6	A cock's foot has strong blunt claws for scratching the soil.	A cock's foot is strong.	A correct description of the cock's foot.	Assess the candidates on their knowledge about beaks and feet of different groups of birds.
33.	P.4/P.5	To prevent rabbits from digging the ground/To prevent flowing water from entering the hutch/To protect rabbits from being eaten by wild animals.	To allow free air circulation.	Correct reason.	Discuss the diseases that affect rabbits and care for rabbits.
34.	P.5	By fencing the apiary/By cleaning the bushes near the apiary/By raising the hives from the ground.	By oiling the supports of the beehives.	A way of protecting bees from attack of honey badgers.	Go through the management practices of bee keeping in a detailed form.
35.	P.4/P.5	Mulches prevent evaporation of moisture from the soil.	Mulching keeps water in the soil.	Role of mulches in the maintenance of soil moisture.	Task candidates to write short summaries on ways mulching performs its roles in the garden.
36.	P.7	A thin lens/A short eyeball/A long lens.	A thick lens.	Cause of long sightedness.	With clear details, detail the discussion on the eye defects and their management.
37.	P.6/P.7	Both plants and animals can be replaced by reproduction.	Both are replaced.	Correct comparison.	Train candidates on proper question approach.
38.	P.7	Light travels in a straight line.	Light is faster than sound.	Light travels in a straight line.	With clear illustrations, help candidates to master the properties of light.

39.	P.7	Reduced friction makes a vehicle slide on a slippery road/A vehicle fails to stop even when brakes are applied.	Reduced friction helps a vehicle to stop.	Effect of reduced friction.	Go through ways of increasing or reducing friction.
40.	P.3	To kill parasites/To prevent a bad smell in them/To dry them in case of being wet.	To remove germs.	Correct reason.	Discuss the significance of personal hygiene.
SECTION B					
41.	P.7	a) Mineral salts/Uric acid/Urea. b) Renal vein. c) The urethra transports urine out of the body while the ureter transports urine from the kidneys to the urinary bladder. d) Drinking enough water/Eating cooked salt/Drinking boiled water/Feeding on a balanced diet/Doing regular physical exercises.	Water Renal artery. The ureter transports urine from the body while the urethra transports food. Drinking alcohol.	Reject water. Correct name. Comparison of the function of urethra and ureter. Care for the kidneys.	Take the candidates through the excretory system in a detailed way. The use of models for different organs will aid mastery.
42.	P.3	a) (i) Anopheles mosquito/Female anopheles mosquito. (ii) Culex mosquito b) Malaria. c) By clearing bushes around the home/By spraying using insecticides.	(i) Tiger mosquito. (ii) Anopheles mosquito. Fever By oiling stagnant water.	Correct identification of mosquitoes. A disease spread by the anopheles mosquito. Control of mosquitoes at the adult stage.	
43.	P.6	a) Little oxygenated blood flow to the brain. b) Standing in sunshine for a long time/Doing vigorous exercises/Motor accidents/Shocking news/Extreme anger/Extreme hunger. c) (i) To allow air circulation/To enable the casualty get fresh air. (ii) To allow enough flow of Oxygenated blood to the brain.	Standing in sunshine for a longtime. Little blood flowing to the brain. (i) To get space. (ii) To allow movement of blood.	Main cause of fainting. Conditions that cause fainting. Correct reason.	Make a summary about accidents, their causes, first aid and prevention amongst people.
44.	P.7	a) Wedges. b) Knife/Spear/Razor blade/Pin/Axe/Bullet/Machete. c) Splitting firewood.	Wooden wedge. Pulley/Opener. Peeling food.	Correct group. A wedge. Activity done by a wooden wedge.	

45.	P.5	a) (i) Polio b) (ii) Stiff muscles c) (iii) DPT vaccine d) (iv) Tuberculosis	Polio Loss of appetite. T.T. vaccine TB	Correct spelling. Correct sign. Vaccine given to babies against Tetanus. Accept full form.	Use the immunization table to discuss the immunization schedule for infants.
46.	P.7	a) (i) Red blood cells/erythrocytes. (ii) White blood cells/Leucocytes. b) In bone marrows. c) Protects delicate body organs/Aids body movement/Gives the body shape.	(i) White blood cells. (ii) Red blood cells. In the short bones. Helps to manufacture blood.	Part of the bone where blood cells are manufactured. Uses of the skeletal muscular system.	Discuss the skeletal-muscular system giving priority to the competences in the topic.
47.	P.5	a) Tethering method/Paddocking method/ Zero grazing method/Strip grazing/Free range grazing. b) To protect sheep from too much sunshine/Heavy rainfall/To protect sheep from attack from wild animals. c) Docking.	Intensive method. To keep the sheep safe. Shearing.	A method of keeping sheep. Reason for providing shelter. Correct term.	A detailed discussion on farm management practices for goats/ sheep and pigs is paramount.
48.	P.7	a) (i) A freely suspended magnets rests/faces the North/south. (ii) Magnetism can pass through non - magnetic materials. b) A razor blade is a magnetic material while a handkerchief is a non - magnetic material. c) Strong hammering causes demagnetization/The magnet loses magnetism.	(i) a magnet rests in North direction. (ii) Magnets have magnetism. A magnet attacks a razor blade. The magnet breaks.	Correct property. Comparison response. Danger of hammering a magnet.	Task the candidates to write and draw the properties of magnets. Also, discuss the uses of magnets to people.
49.	P.4	a) To provide energy to the dehydrated victim. b) Potassium. c) To replace the lost water and mineral salts/To provide energy in the body. d) Eight teaspoonfuls.	To make ORS. Calcium/Phosphorus. To be healthy. One teaspoonful.	Role of sugar. Correct name. Reason for giving drinks to the dehydrated person. Correct number of spoonfuls of sugar.	Practically make ORS locally in the class, and have a detailed discussion.
50.	P.6	a) Making alcohol/Preparing clean water. b) Cultivating a long river banks/Soil erosion.	Boiling tea. Cutting down trees.	Activities that involve distillation. Causes of siltation.	Discuss the topic of science at home and in our community in a detailed form.

		c) Silting reduces the depth of water bodies/Leads to death of aquatic animals /Leads to flooding.	Silting leads to soil infertility.	Effects of siltation.	
51.	P.4	a) (i) Prevents banana plants from falling after fruiting. (ii) Prevents competition for nutrients/Sunlight/Reduces hiding places for pests/Increases crop yields. b) Makes weeding easy/Harvesting easy/Reduces hiding places for pests. c) Cutting off some leaves/Pruning.	(i) Provides extra support to the plant. (ii) Removes unwanted crops in Uganda.	Correct importance of given crop growing practices.	Use the school garden and go through the crop management practices and their importance in the garden.
52.	P.5	a) Water. b) The ice had melted/Melting. c) Physical change. d) To let in fresh air/For free air circulation.	Watering. Heat They disappeared. Melting. To let in oxygen.	Correct identification. A liquid formed. Melting. Type of change. Fresh air/Air circulation.	A detailed discussion on types of changes is paramount. Experimentation will aid retention of concept.
53.	P.3	a) Earthworm/Beetles/Bacteria/Fungi/Rats/Millipede/Termites. b) Weathering c) Soil erosion clears the top soil with all the fertility. d) By terracing/Strip cropping/Contour ploughing/Planting trees.	Birds Whethering. Soil erosion takes the fertility. By mulching.	Living components of soil. Correct spelling. Effect of soil erosion. Control of soil erosion in hilly areas.	Avail the candidates with the examinable concepts about soil and they carry out individual research.
54.	P.3	a) Cabbage/Nakati/Pigweed/Lettuce. b) Veins/Midrib. c) The smaller the leaf, the lower the rate of transpiration/The bigger/larger the leaf, the higher the rate of transpiration.	Cabage Apex/Stem. It leads to low transpiration.	Correct spelling. Part of the leaf that distributes water and mineral salts. Correct comparison.	Discuss the importance of different parts of a flowering plant and their functions on the plant.
55.	P.7	a) C – Secondary cell D – Primary cell b) Current electricity. c) Electric cell C can be recharged while electric cell D can't be recharged/Electric cell C produces a higher voltage than electric cell D.	C – Dry cell D – Secondary cell. Direct current electricity. Electric cell C is better than electric cell D.	Correct name. Type of electricity. Comparison of secondary and primary cell.	Go through the sources of current electricity. The practical approach of the concepts about circuits is paramount.