

# THE SIPRO PRE - PLE SET VI 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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THE SIPRO EDUCATIONAL SERVICES LIMITED - KAMPALA

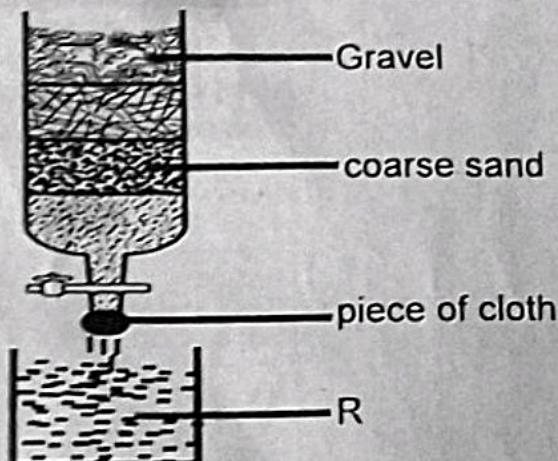
PUBLISHERS OF THE SIPRO TEACHERS' GUIDES, LEARNER'S WORKBOOKS & PUPIL'S COMPANIONS

### **SECTION A : 40 MARKS**

Questions 1 to 40 carry one mark each.

1. State one importance of mucus in the nasal cavity.
2. Which method of food preparation enables a school cook to prepare posho for children in a school?
3. How does soil leaching lead to soil exhaustion in the garden?
4. Name the type of teeth that develops first in babies.
5. In which one way does cloudy weather affect the growth of crops like tomatoes and watermelons?

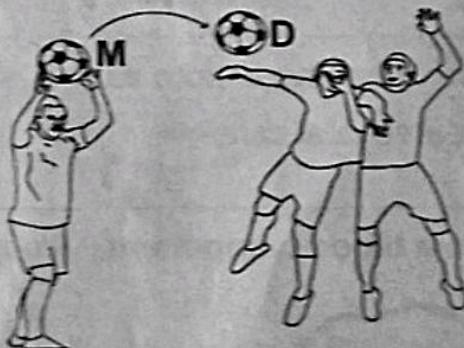
**Below is a diagram showing an experiment carried out by a primary six class. Study and use it to answer questions 6 and 7.**



6. Name the method of preparing clean water shown in the diagram above.
7. Give the reason why the water at R can't be used for preparing juice at home.
8. Name any one substance that may cause poisoning in a home.
9. State the behaviour of the pupil in the eye when exposed to dim light.
10. Why are materials like polythene and plastics regarded as non - biodegradable materials?

11. State one effect of upthrust and gravity to objects exposed to them.
- 
12. What name is given to enlarged water channels formed as a result of soil erosion?
- 
13. What happens to a torch bulb rated at three volts when dry cells of two volts are placed into the torch?
- 
14. Name one example of an emotional or psychological change that occurs in both adolescent boys and girls.
- 
15. In which way is the function of the springs in the vehicle similar to that of the cartilage at a joint?
- 
16. Which process enables a sweater to insulate the body against heat loss on a cold day?
- 

The diagram below shows a football player throwing the ball during a football match. Study and use it to answer questions 17 and 18.



17. Which type of energy is possessed by the ball at position M?
- 
18. State the energy change that occurs once the player throws the ball as shown at position D in the diagram.
- 
19. State one way melting is useful to people.
- 



20. How does a farmer constructing a goatshed ensure that coldness is prevented on the floor?

21. What makes the male aedes mosquito unable to spread yellow fever among people?

22. Mention any one danger of wearing wet underwears and pants.

23. How do people attending a church service reproduce the stored sound in their song books?

24. Give the reason why geese are able to paddle in water without sinking.

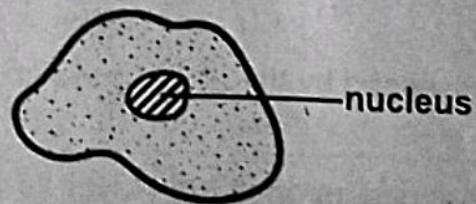
25. Which characteristic enables molars and premolars well suited for grinding food in the mouth?

26. Why does porridge put in a metallic mug cool down faster than that put in a plastic part when put at the same time?

27. Mention one disadvantage of pouring chemicals like paraffin or engine oil in a pit latrine.

28. How do health workers ensure that the unborn baby is safe from tetanus when a pregnant woman goes for antenatal care?

The diagram below shows a blood component. Study and use it to answer question 29.

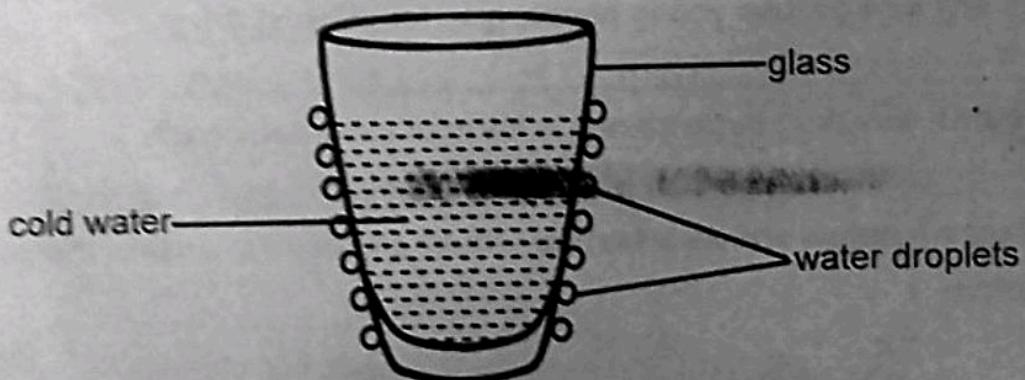


29. How is the irregular shaped cell membrane important to the blood component shown in the above diagram?



30. Name the electric device that converts electrical energy into mechanical energy
- 
31. Which diarrhoeal disease in humans causes stomach pain and serious vomiting?
- 
32. To which state of matter does water turn as it boils?
- 
33. How is petroleum obtained from the ground as an energy resource?
- 
34. Name the parts of a leaf that distribute food nutrients and water to other parts.
- 
35. Which process in soil enables formation of rock particles?
- 
36. Write one importance of correct body posture to the skeletal - muscular system.
- 

The diagram below is of a glass of water. Study and use it to answer question 37.



37. How are the water droplets formed on the surface of the glass with cold water?
- 
38. Name one element of weather that affects the speed of sound.
- 
39. Why are infants with kwashiorkor fed on mushroom soup?
- 
40. Give the reason why a person pushing a wheelbarrow uses less effort downhill than uphill.
- 

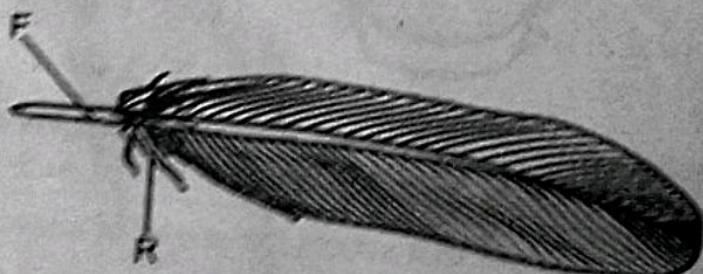


## **SECTION A : 40 MARKS**

*Questions 41 to 55 carry four marks each.*

41. a) Name the method of harvesting wood done by:-  
(i) cutting the terminal bud leaving the side branches.  
  
(ii) cutting the shoot and leaving the stump.
- (b) Give any two ways of conserving wood that has been harvested for electric poles.  
(i) \_\_\_\_\_  
(ii) \_\_\_\_\_
42. a) Apart from alcohol, name any other two drugs that are commonly abused by young people.  
(i) \_\_\_\_\_  
(ii) \_\_\_\_\_
- (b) Write any one excuse young people give for abusing drugs.  
  
(c) Give one way drug dependence is harmful to human health.

43. The diagram below shows a feather. Study and use it to answer the questions that follow.



- (a) Name the part marked with letter R.  
  
(b) Give the function of the part marked with letter F to the feather.  
  
(c) Name one part of a bird where such a feather is found.

(d) How is such a feather useful to the bird's body?

44. a) Name **one** example of an insect that pollinates flowers at night.

(b) How is the pollinator mentioned in (a) above able to carry out pollination?

(c) Write any two differences between insect pollinated flowers and wind pollinated flowers.

(i) \_\_\_\_\_

(ii) \_\_\_\_\_

45. a) State the adaptation of the human heart to each of the following:-

(i) preventing the backward flow of blood.

(ii) pumping oxygenated blood to the rest of the body parts.

(b) Which heart disease is caused by excessive smoking of tobacco?

(c) Write **one** activity done by people to increase the volume of blood in the body.

46. a) How is biogas formed as one of the common fuels used at home?

(b) Name **one** material from plants used for making biogas.

(c) Which equipment helps in the making of biogas?

(d) State **one** way the use of biogas conserves the environment.



47. The table below shows digestive juices and the enzymes they contain. Complete it correctly.

Digestive juice	Enzyme(s) present
Intestinal juice	(a) _____
(b) _____	ptyalin
(c) _____	rennin
Pancreatic juice	(d) _____

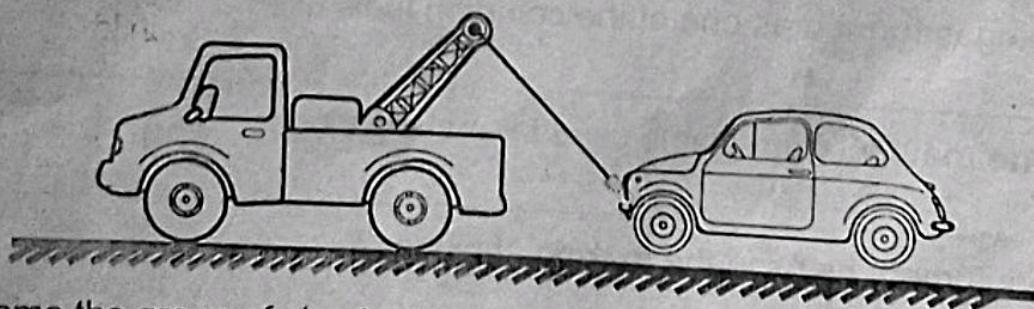
48. a) Give the reason for constructing a pit latrine at a slightly higher level than the water source.

- (b) Which characteristic enables a VIP latrine reduce the spread of diarrhoeal diseases in the environment?

- (c) State two ways the proper disposal of faeces in latrines is of an advantage in the environment.

- (i) \_\_\_\_\_  
(ii) \_\_\_\_\_

49. Below is a diagram of a common vehicle used for towing vehicles. Study and use it to answer the questions that follow.



- (a) Name the group of simple machines used in the vehicle drawn above.

- (b) Apart from towing vehicles, give one other way people use the group of simple machines used in the vehicle drawn above.



(c) Name **one** force that hinders the proper working of the simple machine used in the vehicle drawn above.

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(d) Give **one** way the efficiency of the simple machine used above can be improved.

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50. a) Write any **two** ways ticks are a threat to the health of goats on a farm.

(i) \_\_\_\_\_

(ii) \_\_\_\_\_

(c) Give any **two** steps taken to control ticks on a goat farm.

(i) \_\_\_\_\_

(ii) \_\_\_\_\_

51. a) In which way is the spread of HIV/AIDS similar to that of Hepatitis B among people?

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(b) State **two** effects of HIV/AIDS to the community.

(i) \_\_\_\_\_

(ii) \_\_\_\_\_

(c) Apart from abstaining from sex, how else can school going children prevent contracting HIV/AIDS?

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52. a) Write any **two** natural causes of poor feeding in a family.

(i) \_\_\_\_\_

(ii) \_\_\_\_\_

(b) How are the following classes of food useful in the human body?

(i) mineral salts \_\_\_\_\_

(ii) fats and oil \_\_\_\_\_



53. Match the crops in list A to the diseases that affect them in list B correctly.

List A  
groundnut

banana

cassava

sweet potato

(i) groundnut : \_\_\_\_\_

(ii) banana : \_\_\_\_\_

(iii) cassava : \_\_\_\_\_

(iv) sweet potato: \_\_\_\_\_

List B

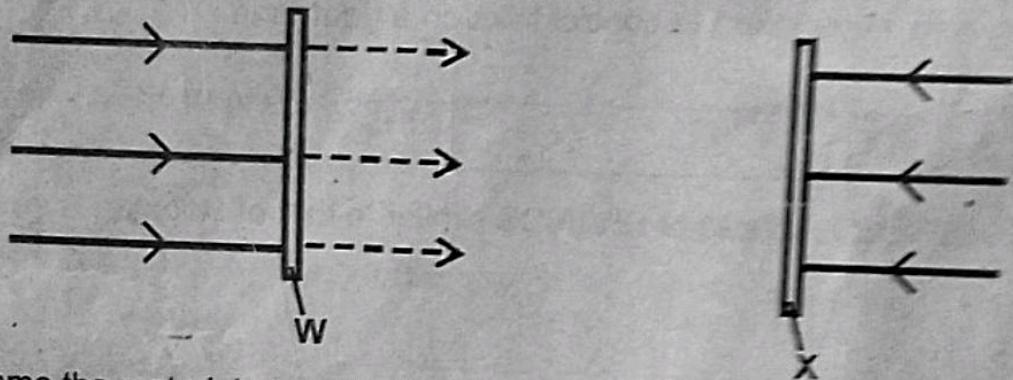
mosaic

rosette

blight

panama

54. Below are diagrams of two different materials related to light. Study and use them to answer the questions that follow.



(a) Name the material named with letter W.

(b) What happens to the beam of light falling onto material X?

(c) Give one example of material W.

(d) State one use of material X to people.

55. a) Write two examples of local beehives.

(i) \_\_\_\_\_

(ii) \_\_\_\_\_

(b) Mention any two disadvantages of using local beehives.

(i) \_\_\_\_\_

(ii) \_\_\_\_\_



# THE SIPRO INTEGRATED SCIENCE PRE-IPLE SET VI MARKING GUIDE 2022

NO	CLASS LEVEL	CORRECT RESPONSE	WRONG ANSWER	MARKING POINT	TECHNICAL ADVICE
1	P.6	Mucus moistens inhaled air/mucus traps dust in inhaled air/mucus filters inhaled air	Mucus makes the air cold.	Importance of the mucus in the nose.	Revise vectors and the diseases they spread.
2	P.4	Mingling	Cooking/boiling	Correct method of preparing posho.	Help candidates differentiate between food preservation and food preparation.
3	P.5	Soil leaching makes soil nutrients sink to bottom soil layers.	Soil leaching the land bare	Response should be about sinking of soil nutrients.	Discuss soil exhaustion and details about it.
4	P.4	Incisor teeth/incisors	Milk teeth	A type of teeth, not set of teeth.	Emphasise the face about question interpretation.
5	P.4	Cloudy weather causes wilting of crops.	Cloudy weather makes crops to dry.	Effects of cloudy weather to crops.	Discuss the measures of managing the different types of weather.
6	P.6	Filtration method	In ventilation	Correct name.	Practically carry out the local purification system of water and also to other methods of preparing clean water.
7	P.6	The water at R may be contaminated/the water at R has germs in it.	The water at R is dirty.	Correct response about having germs.	Task the candidates to discuss the preventive measures of purifying in a home.
8	P.6	Rat poison/herbicides/pesticides/Agricultural chemicals/Petrol/diesel/kerosene/exposed drains/detergents	Uncovered food	Dangerous chemicals to the body.	Go through the process of discussion the control measures of environmental degradation.
9	P.5	The pupil enlarges to let/permit more light	The pupil closes.	Correct behaviour of the pupils.	Discus the control measures of environmental degradation.
10	P.6	Such materials are resistant to bacterial action/such materials can't be acted upon by bacteria.	Such materials can't be degraded/causes environmental degradation	Correct answer but question demanded.	Detected discussion on effective different forms of energy & pollutants.
11	P.5	Reduction in weight/the weight of an object reduced/the weight drops.	The weight changes.	Specification on weight change.	Carry on an environment walk to expose learners to the different types of environment.
12	P.3	valleys/gullies	Willy erosion	Response should be name two the type.	Emphasise the functions of the different components of a simple circuit.
13	P.2	The bulb fails to give light.	The torch bulb gives little light.	Reason why a bulb fails to give light.	Emphasise the functions of the different components of a simple circuit.

14	P.5	Conduction	Radiation	Heat transfer through solids.	Practically discuss the methods of heat transfers in form of experiments.
15	P.7	Both absorb shock	Both reduce friction	Absorption of shock.	Comparison of body systems with the physical environment/critical environment is useful.
16	P.6	Interest in the opposite sex/increased demands/mood swings/desire to be considered mature/increased desire for sex.	Growth of pubic hair	Response should be about the psychological feeling.	Discuss the different changes that occur in adolescents in a more organized way.
17	P.5	Potential energy	Potensho energy/kinetic energy	Energy possessed by stationary objects.	Emphasise the concepts of energy interconversions, and help learners master the concept of energy changes and forms of energy.
18	P.5	Potential energy changes into kinetic energy	Heat energy into sound energy.	Correct energy interconversion	Carry out practical experiments about physical changes and their importance.
19	P.5	Melting helps people to turn ice into water/melting helps people to use cooking fat.	Melting helps people to make ice-cream.	Activity that changes solids into liquids.	Go through the different systems of rearing poultry.
20	P.5	By making the floor with wood/ wooden floor/by covering the floor with beddings	By raising the flow above the ground.	Prevention of coldness on the floor of the goatshed.	Go through insect vectors and their life cycles.
21	P.3	The male Aedes mosquito feeds on plant juice.	The male Aedes mosquito does not bite.	Response should be about not feeding on blood.	Task the candidates to go through care for different systems of the body.
22	P.3/6	Wearing wet pants leads to candidiasis / leads to smell in the reproductive organs/leads to fungal infections in the genital organs.	Leads to poor personal hygiene.	Response should be about contracting diseases.	Have a comprehensive revision about sound energy to enhance mastery.
23	P.6	Through singing the written notations /music/through playing notations with pianos or guitars.	By playing music using DVD players	Reproduction of music stored by notations.	With the help of different diagrams, discuss the beaks and feet for different groups of birds. More so, train candidates to draw beaks and feet for birds.
24	P.6	Geese have webbed feet for paddling in water.	Geese have many soil glands on the soil.	Response should be adaptation of the feet.	Task candidates, in discussion groups to summarise about functions and adaptation of different teeth.
25	P.4/5	Molars and premolars have a rough ridged enamel/have a large rough surface.	Molars and premolars have a big enamel	Description of the enamel for molars and premolars	Discuss heat absorbers and heat reflectors in a detailed way.
26	P.5	The metallic mug emits heat faster than the plastic mug/the metallic mug easily loses heat compared to the plastic one.	The metallic mug absorbs heat.	Response should be about easy loss of heat.	

27	P.6	Chemicals kill bacteria/maggots that reduce the volume of faeces in the latrine	Chemicals cause a bad smell.	Beak of maggots/bacteria	Go through care for different types of latrines.
28	P.5/6	By immunizing her with Tetanus Toxoid (T.T) vaccine.	By using sterilized instruments to cut the umbilical cord.	Vaccination with T.T vaccine	Avail candidates with knowledge about services offered to pregnant women during antenatal care.
29	P.6	Enables the blood component to engulf germs/enables the blood component to easily change shape to that of the germs.	For easy movement.	Change of shape.	Help candidates know the adaptation of different blood components to carrying out their function.
30	P.7	Motor	Dynamo	Correct name	Remind the candidates of the devices connected with electricity and how they perform the work.
31	P.4	Typhoid/cholera	Diarrhoea	A disease with given signs and symptoms.	Have a discussion about common communicable diseases.
32	P.5	Gaseous state/gas/gases	Steam/vapor	State of matter.	Emphasise the point of proper question interpretation.
33	P.7	By drilling	By mining	Correct method of extraction of petroleum.	Go through the uses of petroleum and coal as energy resources.
34	P.3/4	Veins	Midrib	Parts that transport food nutrients in a leaf.	Use real learners to discuss the types of leaves in a detailed form.
35	P.3/5	Weathering process	Weathering	Correct spelling	Task candidates to discuss the components of soil and their uses.
36	P.7	Helps in proper growth of bones and muscles/help in growth of strong bones and muscles/prevents deformation of bones.	Keeps the skeletal muscular system healthy.	Prevention of skeletal and muscle disorders.	Go through care for the skeletal and muscular.
37	P.5	By the process of condensation.	By evaporation	Correct process/correct language	Discuss the effects of heat on matter ie heat loss and gain.
38	P.5	Temperature/wind	Rainfall/altitude	Element of weather that affects sound waves.	A thorough revision about the speed and pitch of sound is paramount.
39	P.4	To help them get proteins/mushroom soup is a source of protein to the infants.	To prevent kwashiorkor.	Revision of proteins.	In small study groups, candidates should discuss about deficiency diseases and their controls.
40	P.7	Pushing downhill is affected by less gravity while pushing uphill is affected by more gravity/due to more gravitational pull when pushing uphill than downhill	Due to more energy used.	Response should be about difference in terms of gravity.	Go through the effects of different forces onto different machines.

SECTION B						
41	P.7 a)	i) pollarding ii) coppicing	lopping Pollarding	Correct method of harvesting wood. Conservation of wood for electric poles.	Discuss the ways of harvesting wood, and conservation of wood for different purposes.	
	b)	by chemical treatment/by sun drying.	By seasining	Response should be in terms of nature of the image formed.		
42	P.6 a)	Cocaine/marijuana/tobacco/heroin/khat	Nicotine/tar	Drugs of dependence.	Help candidates differentiate between narcotics and essential drugs, and abuse with drug misuse.	
	b)	Desire to be confident/desire to relieve stress/desire to improve sexual performance/desire to stay awake/desire to feel warm.	To relive stress.	Correct language competence.		
	c)	Causes permanent damage to the basin, causes diseases like lung cancer/causes self neglect/loss of appetite/leads to insomnia	Leads to poverty	Response should be about human health.	Discuss the effects of drug abuse to the individual, families and communities.	
43	P.4 a)	After shaft	Hair	Correct name.	With the help of real feathers, discuss the different types of feathers and their uses in the body.	
	b)	For attachment to the skin	To hold the feather.	Correct use		
	c)	Wings/tail	Body	Part of the body with quill.		
	d)	For flight/helps in flying	To cover the body.	Use of quill feather.		
44	P.6 a)	Moths/beetles	Mosquitoes	Nocturnal insect pollinator.	Have a detailed and comprehensive discussion about pollination to prepare candidates handle any questions about it in all manners.	
	b)	Has a strong smelling sense/by smelling the scent from flowers.	By help of the flower's	Ability to smell the scent from flowers.		
	c)	Insect pollinated produce scent while wind pollinated flowers produce no scent/insect pollinated flowers have brightly coloured petals, while wind pollinated flowers have dull coloured petals/insect pollinated flowers produce little pollen while wind pollinated flowers produce much pollen.	Insect pollinated flowers have a good scent while wind pollinated flowers have a bad scent.	Correct and complete comparison.		
45	P.6a i)	The heart has valves.	The heart has thick muscles.	Correct adaptations.	Have a discussion through the circulatory system and its components i.e. blood vessels, the heart and blood components.	
	ii)	The heart has the left ventricle made of a thick muscle.	The heart has valves.			
	b)	Coronary heart diseases.	Heart failure	A disease caused by narrowing of arteries by a clot of fat.		
	c)	My leading on various foods/drinking plenty of fluids.	Feeding on a balanced diet.	Response should be about increase of blood.		

46	P. 7 a)	By fermentation/decomposition of biomass in an air tight container.	By using organic matter.	Correct way of forming biogas.	Go through conservation of renewable energy resources and non-renewable energy resources.
	b)	Plant leaves/stems	Roots	Correct part.	
	c)	Biogas digester/a digestor	Container	Correct name.	
	d)	Biogas is used for cooking other than cutting down trees for firewood/biogas prevents air pollution by smoke that would come from firewood	Biogas is cheap.	Correct and complete response.	
47	P.5 a)	Sucrose/fructose/peptidase/lipase/maltase	Pepsin	Correct name of digestive juices and enzymes.	Discuss about the digestive system and the process of digestion at large.
	b)	Saliva	Gastric juice		
	c)	Gastric juice	Saliva		
	c)	Lipase/trypsin/amylase	Salivary amylase		
48	P.6 a)	To prevent faeces from seeping into water sources/to prevent contamination of water sources.	To keep them clean.	Correct reason.	Go through the different types of latrines and how they help in keeping the environment clean.
	b)	The VIP latrine has a vent screen to trap houseflies that spread diarrhoeal diseases,	The VIP latrine has a vent pipe.	Response should be about vent screen.	
	c)	Prevents bad smell in the environment/prevents easy spread of diarrhoeal diseases/reduces the number of houseflies in the environment	Promotes sanitation and health.	Ways proper disposal of faeces contributes to proper sanitation and health.	
49	P.7 a)	Pulleys	Levers	Correct group name.	Remind candidates of the groups of different machines with their details in a summarized format.
	b)	For lifting heavy goods using planes/for raising school flags on masts/for moving up storeyed buildings using elevators/for raising building materials.	For reducing effort.	Use of pulleys.	
	c)	Gravity/gravitational force/friction/ frictional force	Gravity force	Correct name	
	d)	By oiling moving parts of the machine/by greasing moving parts of the machine	By taking care of it.	Correct care given to pulleys.	
50	P.5/6a)	Ticks suck blood and cause anaemia/ticks spread tick borne diseases/ticks damage the skin of goats.	Tick bite goats.	Danger of ticks on goats.	Elaborate more on ways of controlling diseases on animals farms, and control of animal ecto and endo parasites through routine activities done on the animal farm
	b)	Dipping goats in acaricides/spraying goats with acaricides/carrying out paddock cleaning/double fencing/scratching goats with hands.	Killing the ticks.	Steps that kill ticks on goats.	

51	P.4 a)	Both HIV/AIDS and Hepatitis B are spread through having unprotected sex with an infected individual.	Both are caused by a virus.	Response should be about the spread.	Discuss about different communicable diseases and their control measures among individuals.
	b)	Leads to low development/poor service delivery/may lead to increased school drop out/street children	Leads to death.	Response should be as a result of death due to AIDS.	
	c)	Avoid sharing sharp piercing instruments.	By using condoms when playing sex.	Response should be control of AIDS among school children.	
52	P.4 a)	Laziness among family members/floods/rainfall	Not feeding on a balanced diet.	Natural cause of poor feeding.	Task candidates to discuss the components of a balanced diet. This should be accompanied with a detailed discussion about deficiency diseases/malnutrition.
	b)	i) help in growth of strong bones and teeth/help in formation of red blood cells/increasing the volume of blood in the body/help in proper growth of thyroid glands  ii) provide energy in the body/insulate the body against heat loss.	Promote health	Correct use of given food values.	
		Keep the body healthy.			
53	P.4 a)	i) rosette ii) panama iii) mosaic iv) blight	i) mosaic ii) blight iii) rosette iv) panama	Correct matching.	Help learners know of the crop diseases and how they affect crop production.
	b)	The beam is blocked/the rays are blocked/obstructed	The beam is reflected.	Material that light passes through it.	Compare the materials that are related to light and how they affect the beam of light.
	c)	Clear glass/air/clean water	Plastics	Response should be about obstruction of light.	
	d)	For building houses/for privacy/for formation of shade/for making furniture,	For making echoes.	Transparent material.	
54	P.7 a)	Transparent material	Translucent material	Importance of opaque objects to people.	
	b)	The beam is blocked/the rays are blocked/obstructed			
	c)	Clear glass/air/clean water	Plastics		
	d)	For building houses/for privacy/for formation of shade/for making furniture,	For making echoes.		
55	P.5 a)	Kigezi beehive/dug out log hive/tin hive	Top bee hive	Traditional beehive	Compare the traditional and modern beehives in a detailed way. Go ahead and discuss about the management of bees on an apiary.
	b)	Inspecting the colony is difficult/honey harvested is mixed with grubs/the hive is damaged when harvesting honey.		Correct disadvantages.	