

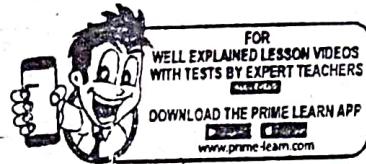


THE PRIME EXAMINATIONS 2023

PRIMARY SIX BEGINNING OF TERM III

INTEGRATED SCIENCE

Time allocated 2 hours 15 minutes



Name:.....

Signature:.....

School:.....

District Name:.....

READ THE FOLLOWING INSTRUCTIONS CAREFULLY

1. This paper has two sections: A and B. Section A has 40 questions (40 Marks) and Section B has 15 questions. (60 Marks)
2. Answer ALL questions. All answers to both sections A and B must be written in the spaces provided.
3. All answers must be written using a blue or black ball point pen or ink. Any work written in pencil will not be marked.
4. Unnecessary changes in your work and handwriting that cannot be read easily may lead to loss of marks.
5. Do not fill anything in the table indicated

"FOR EXAMINERS' USE ONLY"

FOR EXAMINERS' USE ONLY		
QUESTION NUMBER	MARKS ATTAINED	INITIALS
1 - 10		
11 - 20		
21 - 30		
31 - 40		
41 - 43		
44 - 46		
47 - 49		
50 - 52		
53 - 55		
TOTAL		

APPROVED:

Consultant
Integrated Science Department (PEC)

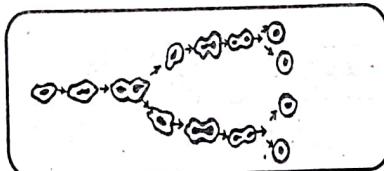
PUBLISHERS OF:-

THE PRIME SCHEMING FRAME WORKS, PUPIL'S WORKBOOKS, LESSON COURSE BOOKS, HOLIDAY PACKAGES
LEARNING GAMES, REVISION BOOKS, PLE ANALYSIS REPORTS AND MANY MORE

Section A. (40 Marks)

1. Name the structures found in the veins that serve a similar function as the kink in the clinical thermometer
2. Apart from Ancona, give one other breed of chicken kept for egg production.
3. Why do bees visit flowers?
4. How does heat travel through solids?
5. State any one way of managing rainy weather.
6. How does paddock grazing minimize the spread of tick-borne diseases among cattle?

Study the diagram below carefully and use it to answer the questions that follow.



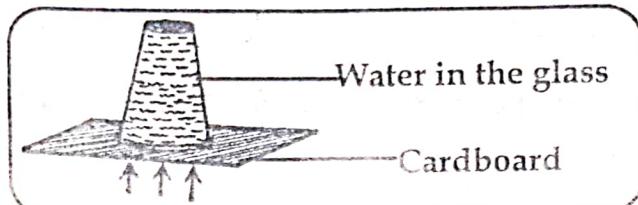
7. What mode of reproduction is illustrated in the diagram above?
8. Apart from bacteria, state one other organism that reproduces in the way as shown in the diagram above.
9. How is a scorpion different from other arachnids in terms of reproduction?
10. State the property of sound that enables bats to move at night easily.
11. Why is clay soil used in making ceramics?
12. State a reason why harvesting of honey is commonly done in the evening.
13. Name the instrument used by dairy cattle farmers to detect the presence of mastitis in milk.
14. Which component of air is used by veterinary doctors to preserve semen?

15. How can crop farmers sustain the growth of crops during the dry season?

16. Name one example of a renewable resource.

17. Mention any one process involved in the water cycle.

The diagram below shows a property of air, use it to answer questions 18 and 19.



18. Name the property of air illustrated above.

19. State one application of the above property of air in the environment.

20. Which elements of PHC helps to control population explosion?

21. Name any one example of a useful fungus.

22. How are houseflies adapted to spreading of germs to people?

23. Name the part of the human body that works like the gills in fish.

24. Give one way how one can care for his/her teeth.

25. Why is a person suffering from hook worm infestation likely to suffer from anaemia?

26. State one way of acquiring natural immunity.

27. Apart from the sick, give one other example of a vulnerable group of people.

28. Give one method of preserving hides.

29. What name is given to the fungus used in fermentation process of making alcohol?

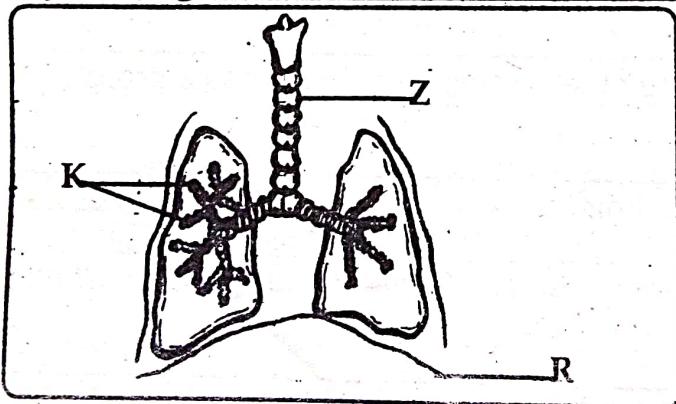
Study the diagram below carefully and use it to answer questions 30 and 31.



- 30 Name the method of separating mixtures shown above.
- 31 State the element of weather that favours the above activity.
- 32 How are earthworms useful to soil?
- 33 As a P.6 pupil, what first aid can you give to your classmate who has been bitten by a poisonous snake?
- 34 Where in the body does respiration take place?
- 35 State the role of red blood cells in the body.
- 36 Which food value do we obtain from eating legumes?
- 37 *Apart from a bat, name one other animal that uses echoes in its movement.*
- 38 Name the vector that spreads bilharziasis to human beings.
- 39 How can sheep farmers ensure successful mating among their sheep?
- 40 What general name is given to the muscles of the heart?

Section B (60 Marks)

- 41 Study the diagram below and use it to answer the questions that follow.



42.

(a) Which body system illustrated in the diagram above?

(b) Name the parts marked Z and R from the diagram above.

(i) Z _____ (ii) R _____

(c) State any one adaptation of the structures marked K to performing their function.

(a) Why does a doctor first shake the clinical thermometer before using it on another patient?

(b) Name the liquid metal used in clinical thermometers.

(c) Convert 20°C to $^{\circ}\text{F}$.

(02 Marks)

43.

(a) How are prop roots useful to plants?

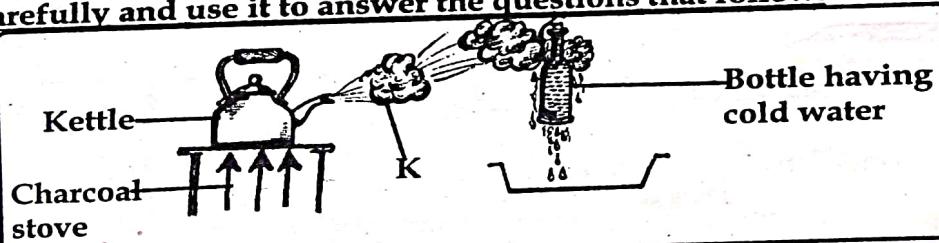
(b) At what stage do prop roots develop on a plant?

(c) Write any two examples of plants with prop roots.

(i) _____ (ii) _____

44.

The diagram below represents a natural process in the environment. Study it carefully and use it to answer the questions that follow.



(a) Name the natural process shown in the diagram above.

(b) What does the following represent in the above process?

(i) The kettle _____

(ii) Charcoal stove _____

- (c) Which type of weather is caused by the above process?
45. (a) Victor put a coin and a piece of paper on water in a basin and the two behaved differently. State what happened to;
- (i) A coin _____
(ii) A piece of paper _____
(b) Name one other object that behaves in the same way as a piece of paper when put on water.
- (c) State the method used for finding the volume of an irregular object.
46. Match the items in list A to those in list B correctly.
- | List A | List B |
|--------------------|-----------------|
| (i) Polio | Hep B vaccine |
| (ii) Measles | BCG vaccine |
| (iii) Tuberculosis | Polio vaccine |
| (iv) Hepatitis B | Measles vaccine |
- (i) Polio _____
(ii) Measles _____
(iii) Tuberculosis _____
(iv) Hepatitis B _____
47. (a) Apart from animals, give two examples of agents of seed dispersal.
(i) _____ (ii) _____
(b) State one adaptations of fruits and seeds dispersed by animal.
(c) How is seed dispersal important to plants?

48. (a) *Apart from Friesian cattle*, give two other dairy breeds of cattle.
(i) _____ (ii) _____
(b) Why do farmers prefer Friesian cattle to other dairy breeds of cattle?

(c) State the functional difference between a *strip cup* and a *lactometer* as instruments used on a dairy farm.

49. (a) Give one example of vectors that spread diseases through bites.

(b) How can the spread of malaria be prevented among people?

(c) Name the disease spread by each of the following vectors.

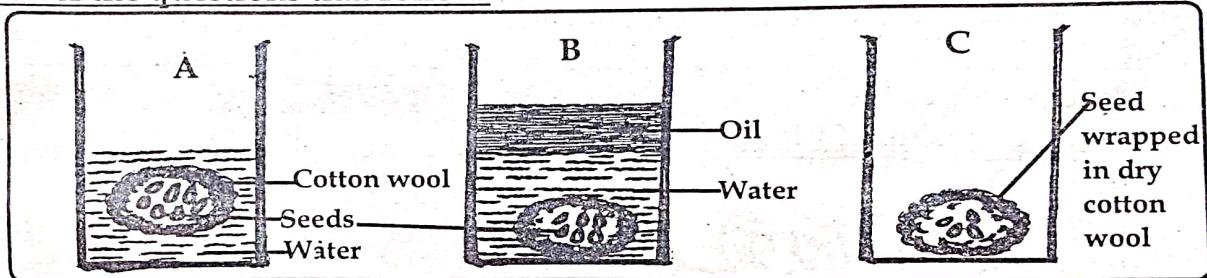
50 (i) Tsetse fly _____ (ii) _____
 (a) What term is used to mean *the growing different crops on the same piece of land seasonally?*

(b) *Apart from controlling pests, state two other importance of the above practice.*

(i) _____ (ii) _____

(c) How does the above practice control pests in the garden?

51 The diagram below is about germination. Study it carefully and use it to answer the questions that follow.



(a) After a period of one week, in which container did the seed;

(i) Germinate _____ (ii) Fail to germinate _____

(b) Why did the seeds in container C behave like that?

(c) How is germination of seeds similar to burning of wood?

52. (a) Name the toxic chemical found in tobacco.

(b) *Apart from peer influence, state two other factors that may lead to smoking of tobacco by an individual.*

(i) _____
 (ii) _____

(c) How is tobacco smoking dangerous to one's health?

53. (a) To which group of vertebrates do we categorise?

(i) Snakes _____

(ii) Newts _____

(b) Why do snakes moult?

(c) Why do some constrictors first lick the prey after killing them?

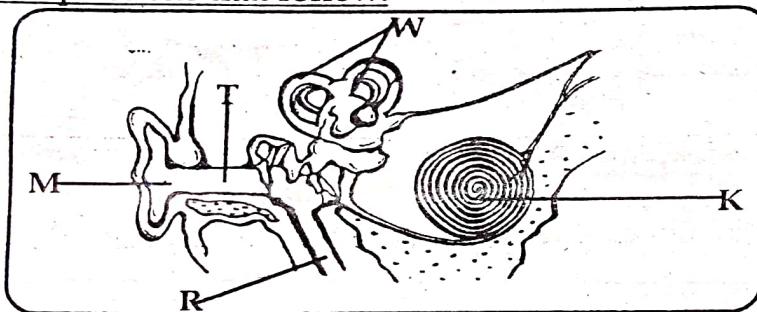
54. (a) Why is rainfall measured in millimetres?

(b) Apart from a barometer, state two other examples of instruments kept in a Stevenson screen.

(i) _____ (ii) _____

(c) Which type of clouds are a direct sign of rain?

55. The diagram below is of a human ear. Study it carefully and use it to answer the questions that follow.



(a) Identify the parts labelled W and K.

(i) M: _____ (ii) K: _____

(b) State the function of part marked R.

(c) How is part marked M adapted to performing its functions?

THE PRIME P.6 INTEGRATED SCIENCE BEGINNING OF TERM III MARKING GUIDE 2023

No	Answers	Competence	Section A (40 Marks)		Values	Class	Level
			Topic/Sub-topics	Life skills			
1.	▪ Valves.		Names the structures in the veins.	Critical thinking	Concern	P.6	K
2	▪ Brown egg/ white leghorn/ Minorca.		Gives other breeds of chicken kept for egg production.	Problem solving	Care	P.5	C
3	▪ To collect nectar.		Gives reasons why bees visit flowers.	Bee keeping	Environmental awareness	Concern	P.6
4	▪ By conduction.		States how heat travels through solids.	Problem solving	Care	P.4	C
5	▪ By using an umbrella/ raincoats / gumboots.		States ways of managing rainy weather.	Critical thinking	Observation	P.6	A
6	▪ Paddock grazing makes ticks starve/ breaks the life cycle of ticks.		States how paddock grazing minimizes the spread of ticks.	Keeping poultry and bees.	Critical thinking	Observation	P.6
7	▪ Binary fission/ cell division.		Names mode of reproduction.	Classification of animals.	Effective communicating	Concern	P.5
8	▪ Amoeba.			Problem solving	Love	P.5	K
9	▪ A scorpion produces live young ones while the other arachnids reproduce by laying eggs.		States ways how a scorpion is different from other arachnids.	Creative thinking	Logic	P.6	C
10	▪ Sound can be reflected.		States the property of sound that enables bats to move at night.	Sound	Critical thinking	Concern	P.3
11	▪ Clay soil is sticky when wet/ mixed with water.		Gives reasons why clay soil is used in ceramics.	Soil	Environmental awareness	Logic	P.6
12	▪ Bees are calm and dormant in the evening.		States reasons why honey is harvested in the evening.	Bee keeping	Critical thinking	Appreciation	P.5
13	▪ A strip cup.		Names the instrument used by farmers to detect the presence of mastitis in milk.	Keeping goats, sheep and pigs.	Environmental awareness	Love	P.4
14	▪ Nitrogen.		Names components of air used by veterinary doctors.	Het energy	Problem solving	Logic	P.6
15	▪ By watering crops/ by carrying out artificial irrigation.		States ways of growing crops in dry season.	Plant life.	Critical thinking	Logic	P.6
16	▪ Water/air(wind)/ animals/ plants/ the sun.		Gives examples of a renewable resource.	Classification of animals. (pg 44)	Problem solving	Observation	P.5
17	▪ Evaporation/ condensation/ transpiration.		Gives process involved in the water cycle.	Resources in the environment.	Environmental awareness	Logic	P.6
18	▪ Air exerts pressure.		Names property of air.	Resources in the environment.	Effective communication	Care	P.5
19	▪ It helps in inflating a tyre/ helps in drinking beverages using a straw.		Gives element of PHC to control population explosion.	Problem solving	Logic	P.6	C
20	▪ Family planning.		Gives examples of useful funguses.	PHC	Environmental awareness	Care	P.4
21	▪ A mushroom/ yeast/ penicillium.		Mentions ways how houseflies are adapted to spreading of germs.	Bacteria and fungi.	Critical thinking	Appreciation	P.6
22	▪ Houseflies have hairy body for spreading germs.		Names part of the body that works as gills in fish.	Classification of animals.	Appreciation	Concern	P.2
23	▪ Lungs.		Gives ways of caring for teeth.	The human body.	Critical thinking	Care	P.6
24	▪ By dental flossing/ by rinsing the mouth/by brushing the teeth regularly.		Gives ways of caring for teeth.	The teeth	Self awareness	Concern	P.6

25	▪ Hook worms feed on blood in the body.	Gives effects of hook worm.	Worm infestation	Problem solving	Appreciation	P.4	A
26	▪ By breast feeding/ by immunisation.	Gives ways of acquiring natural immunity.	Immunisation	Critical thinking		P.6	C
27	▪ The elderly/ pregnant women/ weaning children/ breast feeding mothers.	Gives examples of vulnerable people.	Human body and health	Problem solving	Concern	P.5	K
28	▪ Wet salting/ suspension drying	Gives methods of preserving hides.	Measurement	Critical thinking	Concern	P.4	K
29	▪ Yeast.	Names fungus used in fermentation process.	Bacteria and fungi	Self awareness	Logic	P.4	K
30	▪ Winnowing.	Names methods of separating mixtures.	Resources in the environment	Critical thinking	Care	P.6	K
31	▪ Wind.		Self awareness	Concern	P.3	C	
32	▪ Earth worms help to improve soil drainage/ they help to improve soil aeration/ they help to improve soil fertility.	States uses of earth worms.	Classification of animals	Problem solving	Care	P.5	C
33	▪ Tie a tourniquet between the bitten part and the heart/ apply a black stone on the bitten part.	Names first aid given to a person bitten by a snake.	Accidents and safety.	Problem solving	Logic	P.4	C
34	• Living blood cells.	Names where the body respiration take place.	Major body organs.	Critical thinking	Observation	P.3	C
35	▪ Red blood cells transport oxygen in the body.	States roles of red blood cells.	Circulatory system	Environmental awareness	Logic	P.6	A
36	▪ Proteins.	Names food values obtained from eating legumes.	Our food	Critical observation			
37	▪ Blue whale/sperm whale.	Names animals that uses echoes in its movement.	Classification of animals	Concern	P.5	K	
38	▪ A fresh water snail.	Names vectors that spreads bilharziasis.	Vectors and diseases	Critical thinking	Appreciation	P.4	C
39	▪ By docking the ewe.	Mentions ways of mating in sheep.	Keeping goats, sheep and pigs.	Problem solving	Concern	P.6	C
40	▪ Cardiac muscles.	Gives the general name of muscles of the heart.	The human body	Problem solving			
Section B (60 Marks)							
41.	(a) Respiratory system/ excretory system. (b) (i) Z - Tracheal wind pipe (c) Structures marked K are thin walled to ease diffusion of respiratory gases/ they are numerous to provide a large surface area for gaseous exchange/ they have numerous blood capillaries to ease transportation of respiratory gases.	Names the body system.	The human body.	Environmental awareness	Care	P.5	C
42	(a) To make mercury flow back to the bulb. (b) Mercury. (c) $F = (C \times \frac{9}{5}) + 32^\circ$ $20^\circ \times \frac{9}{5} + 32^\circ$ $36^\circ + 32^\circ$ 68° $20^\circ C = 68^\circ F$	Names the liquid metal used in clinical thermometer.	Weather changes around us.	Self awareness	Concern	P.4	K
43	(a) Prop roots provide extra support to plants. (b) Flowering stage. (c) Maize/ rice/ millet/ sorghum/ wheat.	Gives uses of prop roots.	Crop growing	Critical thinking	Logic / Observation	P.6	A
44	(a) Water cycle. (b) (i) The kettle - represents the waterbody.	Names the natural process in the environment.	Weather changes around us.	Critical thinking	Care	P.5	C

	(iii) Charcoal stove - represents the sun. (c) Rainy weather.					
45	(a) (i) A coin - It sank in water. (ii) A piece of paper - It floated on water. (b) cooking oil/feather/ a piece of wood/ a leaf. (c) Displacement method.	Names how different objects behave when put on water.	Measurements.	Environmental awareness	Concern	P.6 C
46	(i) Polio - Polio vaccine. (ii) Measles - measles vaccine. (iii) Tuberculosis - BCG vaccine. (iv) Hepatitis B - Hep B vaccine.	Matches diseases to their vaccines.	Immunisation	Critical observation	Care	P.4 A
47	(a) Water/ wind. (b) Some fruits have bright epicarps to attract animals/ some fruits have hooks to attach on the body of animals/ some fruits a well scented to attract animals. (c) Seed dispersal enables plants to colonise new areas/ it prevents over crowdedness among plants/ it helps to minimize the spread of diseases among plants.	Gives examples of agents of seed dispersal.	Managing resources	Critical thinking	Concern	P.6 C
48	(a) Jersey/ Guernsey/ Jamaican hope. (b) Friesian cattle produces more milk than other dairy breeds of cattle. (c) A strip cup is used to detect mastitis in milk while a lactometer is used to determine if extra water has been added to milk.	Gives examples of dairy breeds of cattle.	Keeping goats, sheep and pigs.	Critical thinking	Care	P.5 C
49	(a) Tsetse fly/ rabid dogs/ infected female anophelis/ culex/ tiger mosquito. (b) By draining stagnant water/ by introducing fish ponds/ by clearing bushes around our homes/ by oiling stagnant water/ by sleeping under treated mosquito nets. (c) (i) Tsetse fly - sleeping sickness.	Gives examples of vectors that spread diseases through bites.	Vectors and diseases.	Self awareness	Love	P.4 C
50	(a) Crop rotation (b) It helps to improve on soil fertility/ it controls soil erosion. (c) By breaking the life cycle of pests.	States importance of crop rotation.	Crop growing	Critical observation	Logic	P.6 C
51	(a) (i) Germinate - container A (ii) Fail to germinate - container B and C (b) There was no water that aids in germination. (c) By breaking the lifecycle of pests.	Mentions germination of seeds	Plant life.	Interpersonal relationships	Respect	P.2 K
52	(a) Tar. (b) Frustration/ family background/ social environment. (c) Tobacco smoking causes diseases like lung cancer/ tobacco smoking discolorises the teeth/ it leads to self neglect.	Names the toxic chemicals found in tobacco.	Resources in the environment.	Environmental awareness	Observation	P.6 K
53	(a) (i) snakes - Reptiles (b) To increase in body size. (c) To make the prey slippery for easy swallowing.	Gives examples of groups of vertebrates.	Classification of animals.	Self awareness	Care	P.4 C
54	(a) To determine the depth at which water has entered the soil. (b) sif's thermometer/ hygrometer. (c) Nimbus clouds.	Gives examples of instruments kept in a steven son screen.	Managing resources in the environment	Critical thinking	Logic	P.5 A
55	(a) (i) M. Pima. (b) Part R equalizes air pressure on either sides of the ear. (c) Part M is broad to collect sound waves easily.	Names parts of a ear	The ear	Critical observation	Appreciation	P.6 C