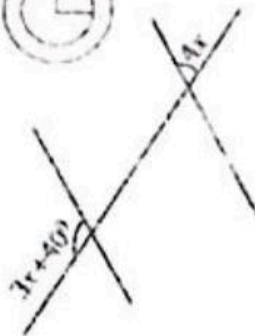
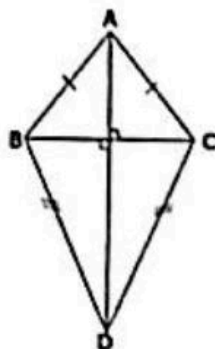


PLE MOCK

SCIENCE

Official Marking Guide



Let Quality Speak for itself

INTEGRATED SCIENCE



Prepared by

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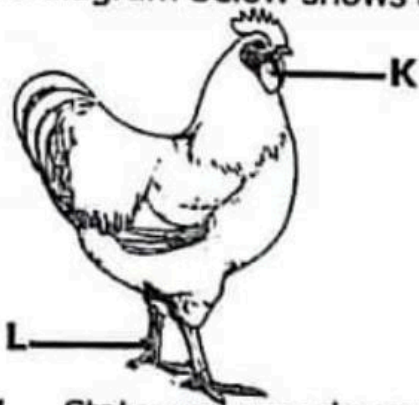
SECTION A: 40 MARKS

1. Name the breeding ground for simuliid flies.
✓ Fast flowing water (Reject: water alone/flowing water)
2. Give any **one** factor that increases the rate of transpiration in plants.
✓ High temperature. ✓ Low humidity.
✓ Large surface area of the leaf. ✓ High speed of wind.
3. Give any **one** example of a biological change that enable animals to get food.
✓ germination ✓ ripening of fruits.
✓ fruiting.
4. State the reason why a casualty who has nose bleeding is advised to breathe through the mouth.
✓ To reduce the pressure of blood flowing through the nose.
5. Give any **one** way in which you can identify a cow suffering from mastitis on a farm.
✓ Swollen udder and teats. ✓ Pus in milk.
✓ Blood-stained milk. ✓ Painful udder and teats.
6. Name the pair of muscles in the human skeleton that work together while opposing each other.
✓ Biceps and triceps (Reject: biceps alone or triceps alone)
7. Mention any **one** way of conserving fish in the environment.
✓ Restocking over-fished water bodies.
✓ Protecting water bodies from pollution.
✓ Using safe methods of fishing.
✓ Practising aquaculture.
✓ Building aquaria/fish pond.
✓ Controlling silting.
(Reject: smoking/sun drying/freezing/refrigeration/salting)
NOTE: -Conserving fish means protecting fish from danger and extinction.
-Preserving fish means keeping fish safe for a long time without going bad
8. State any **one** way of identifying a child suffering from measles.
✓ High fever. ✓ Skin rash. ✓ Runny nose
✓ Red eyes. ✓ Sore mouth ✓ Cough.
9. Give any **one** birth control method that prevents sperms from reaching the fallopian tubes.
✓ Using diaphragm ✓ Tubal ligation
✓ Vasectomy ✓ Using implants

10. State any **one** step that can be used when preparing Oral Rehydration Solution (ORS) from factory made packets.
1. Wash your hands using clean water and soap.
 2. Measure one litre of drinking water into a clean container.
 3. Clean the sachet of oral rehydration salts and empty it into the water
 4. Stir the mixture well and give the solution to the patient.

11. Give any **one** way in which heat affects solids.
- | | |
|--|---------------------------------|
| ✓ Makes solids to expand. | ✓ Makes solids to sublime. |
| ✓ Makes solids to melt. | ✓ Makes solids to shrink. |
| ✓ Increases the temperature of solids. | ✓ Reduces the volume of solids. |

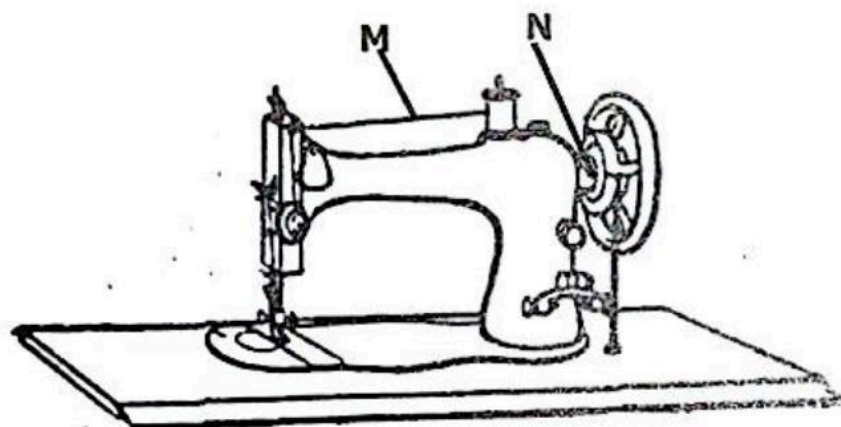
The diagram below shows a cock. Study and use it to answer questions 12 and 13.



12. Name the part of the cock marked K.
✓ wattle
13. Which structures on the caterpillar perform a similar function as part of the cock marked L?
✓ Prickly hair / prickly hair
(Reject: hair alone)
14. State any **one** danger of hanging clothes under direct sunshine for a long time to dry.
- ✓ Clothes can easily fade in colour.
 - ✓ Makes it hard to remove creases from clothes when ironing.
15. Mention any **one** way in which domestic animals can contribute to the spread of diseases to people at home.
- ✓ They harbour vectors like ticks.
 - ✓ Rabid dogs spread rabies through bites.
 - ✓ Domestic animals contaminate food or utensils.
16. How can water contamination be prevented when digging a pit latrine in the community?
- ✓ By digging the pit latrine at least 30 metres away from the water source.
17. Give any **one** way in which coal can be used as a resource.
- ✓ Coal is burnt to produce heat energy.
 - ✓ Coal is used to make tar for surfacing the road.
 - ✓ Coal is used as fuel in steam engines.
 - ✓ Coal is used to generate thermal energy.
 - ✓ Coal is used in blast furnace to melt iron.
18. State the property that makes a ferry to float on a lake yet it is made of heavy metals.
- ✓ A ferry displaces the amount of water equal to its weight.
(Reject: A ferry is less dense than water)

19. Apart from nectar, mention any **one** other substance collected by worker bees in the environment.
- ✓ water
 - ✓ pollen
 - ✓ propolis
20. State any **one** way in which people use dried slices of pounded cassava tubers at home.
- ✓ For making cassava bread.
 - ✓ For making local beer (Kwete)
 - ✓ For making pancakes.
 - ✓ For making porridge.
21. A part from mode of feeding, state any **one** other feature that can be used when classifying birds.
- ✓ The nature of the feet
 - ✓ The shape of the beak
 - ✓ The mode of movement
22. How does a sweet potato plant obtain food when all its leaves have fallen down?
- ✓ From its root tubers / roots

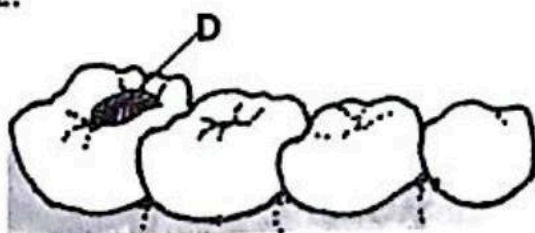
The diagram below shows a machine commonly found in the community. Study and use it to answer questions **23** and **24**.



23. Name any **one** animal fibre that can be used to make the material marked **M**.
- ✓ Silk
 - ✓ Wool
 - ✓ Cony hair
 - ✓ Mohair
 - ✓ Fur
 - ✓ fleece
24. State any **one** way in which friction can be minimized in part marked **N**.
- ✓ Lubrication
 - ✓ Oiling
 - ✓ Greasing
25. State any **one** sign of vitamin D deficiency in a child.
- ✓ Bow shaped legs
 - ✓ Poor teeth formation
 - ✓ Brittle bones and teeth
 - ✓ Knock-knee legs
26. Name any **one** part of the human ear that is not involved in the process of hearing.
- ✓ Semi-circular canals//eustachian tube.
27. State any **one** role played by an individual in promoting health.
- ✓ Regular brushing of teeth.
 - ✓ Washing clothes and beddings regularly
 - ✓ Grooming hair
 - ✓ Cutting finger and toe nails short.

28. State any **one** factor that affects the working of inclined planes.
- ✓ Force of gravity.
 - ✓ Friction
 - ✓ Height of the load
 - ✓ Length of the slope.
29. Apart from collecting cut grass, give any **one** other way in which a rake is useful during land preparation.
- ✓ It is used for levelling soil.
 - ✓ It is used for spreading manure
30. State any **one** way in which you can tell that casualty has simple fracture.
- ✓ Swelling of the injured limb.
 - ✓ Pain at the injured part.
 - ✓ The broken bone remains inside
 - ✓ Internal bleeding
 - ✓ Failure to move the injured part

The diagram below shows ill health on the teeth. Study and use it to answer questions **31** and **32**.



31. Name the substance marked **D**.
- ✓ Dental cavity//dental cary/cavity/cary (Reject: holes)
32. State **one** characteristic of the above type of teeth that makes them suitable for crushing food.
- ✓ They have ridges/ rough surfaces / broad surfaces / cusps.
33. In which **one** way are the iron keepers useful in the storage of magnets?
- ✓ They keep the magnetic cycle complete.
34. Write down any **one** component of sweat.
- ✓ Excess water
 - ✓ Excess salts
 - ✓ Urea
 - ✓ Lactic acid
35. Apart from reducing the speed of flowing water, give any **one** other way in which mulches help to control soil erosion in a tree garden.
- ✓ Mulches trap soil particles from flowing with water.
36. State any **one** way of controlling bacterial diseases.
- ✓ Proper covering of food.
 - ✓ Use of antiseptics.
 - ✓ Use of antibiotics e.g. syrups
 - ✓ Use of disinfectants.
 - ✓ Sterilize medical equipment
 - ✓ Drink boiled water
 - ✓ Drink boiled milk
 - ✓ Pasteurize milk

The diagram below shows a feeding bottle. Study and use it to answer questions 37 and 38.



37. Name the part marked **G**.
✓ Nipple / Teat
38. State any **one** condition under which the mother can feed the baby using the bottle above.
✓ When the mother is HIV positive.
✓ When the mother has little milk in the breast.
✓ When the mother is critically sick.
✓ When the mother is suffering from breast cancer.

39. Give any **one** way in which sunshine supports the life of plants.
✓ Provides sunlight for plants to make food.
✓ Provides warmth needed for seed germination.
✓ Sunlight enables plants to carry out transpiration.
40. Give any **one** way in which essential drugs help to meet people's health needs.
✓ They cure diseases
✓ They treat diseases
✓ They prevent unwanted pregnancies
✓ They reduce pain
✓ They treat immunizable diseases.

SECTION B: 60 MARKS

41. (a) Write any **two** sources of natural materials used in basic technology.
✓ Banana plantation // swamps // forests // animals // plants // rocks
✓ Sisal plantation (reject industries // factories.)
- (b) Give any **two** features used to identify materials used in basic technology
✓ Texture // size // colour // weight.
42. Chloe wanted to demonstrate an experiment about soil. She carried out the following steps.
- Put the transparent glass on the table.
 - Poured water into the glass.
 - Lowered a lump of soil into the water.
- (a) State what Chloe observed after lowering the lump of soil into the water.
✓ Air bubbles // bubbles

(b) What is the importance of the following materials that Chloe used in her experiment above?

(i) Water:

✓ Enables the soil to produce air bubbles.

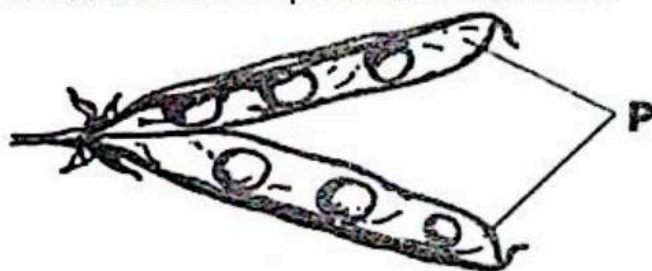
(ii) Transparent glass:

✓ Enables one to see the air bubbles from the soil clearly.

(c) According to the above steps, why did Chloe carry out the above experiment?

✓ To show that soil contains air.

43. The diagram below shows the method of seed dispersal in bean seeds. Study and use it to answer the questions that follow.



(a) Identify the method of seed dispersal shown in the diagram above.

✓ Self dispersal // explosive mechanism.

(b) State any **one** factor that makes the structure marked **P** to split during seed dispersal.

✓ Long exposure to sun heat

✓ Maturity of the pods

✓ Presence of the lines of weakness on the walls of pods.

(c) Name any **two** other plants whose seeds are dispersed as the bean seeds above.

✓ Castor oil plants // pea plants // soya bean plants // kale plants.

44. (a) State any **two** ways in which poor sanitation affects the health of people in the community.

✓ It leads to easy spread of diarrhoeal diseases.

✓ It leads to water and air pollution.

✓ It leads to contamination of food by houseflies.

✓ It encourages the breeding of vectors and germs

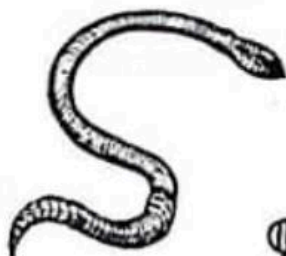
(b) Give any **one** way in which rubbish can be properly disposed at school.

✓ Burning rubbish // Dumping rubbish in dustbins // Burying rubbish.

(c) Name any **one** organism that prevents the septic tank from filling up quickly with faeces.

✓ Bacteria // maggots.

45. (a) What is meant by the term malnutrition?
- ✓ Malnutrition is the state of poor health caused by insufficient food nutrients in the body. **OR**
 - ✓ Malnutrition is a condition which prevents the body from absorbing or using nutrients properly. •
- (b) State any **two** factors that can lead to malnutrition in children.
- ✓ Tapeworm infestation// food insecurity// improper breast feeding
 - ✓ Improper weaning// health conditions like diarrhoea // food taboos
 - ✓ Poverty// natural disasters like floods and drought
 - ✓ Chronic illness which leads to loss of appetite.
- (c) Mention any **one** method of preserving food that does not require heat.
- ✓ Freezing// refrigeration// ice glazing// pickling// salting// use of food preservatives.
46. The diagrams below show animals that are non-vertebrates. Study and use them to answer the questions that follow.



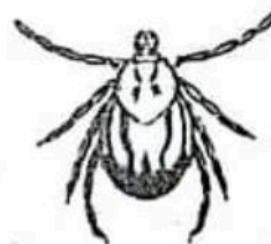
W



X



Y

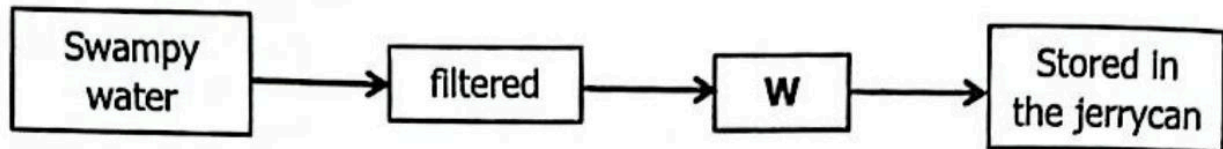


Z

- (a) To which group of arthropods do animals marked **X** and **Z** belong?
- (i) **X** Myriapods.
 - (ii) **Z** Arachnids.
- (b) Give any **one** reason why animal marked **W** is different from animal marked **Y**.
- ✓ Animal marked **W** has a soft body while animal marked **Y** has a hard crusty body.
 - ✓ Animal marked **W** breathes through its moist skin while animal marked **Y** breathes through gills.
 - ✓ Animal marked **W** has a hydrostatic skeleton while animal marked **Y** has an exoskeleton.
 - ✓ Animal marked **W** has no legs while animal marked **Y** has jointed legs.
 - ✓ Animal marked **W** does not moult to grow while animal marked **Y** moults to grow.
- (c) Identify any **one** animal from the diagrams above that helps to improve soil aeration.
- ✓ Animal **W** // animal **X** (Reject earthworm// millipede)

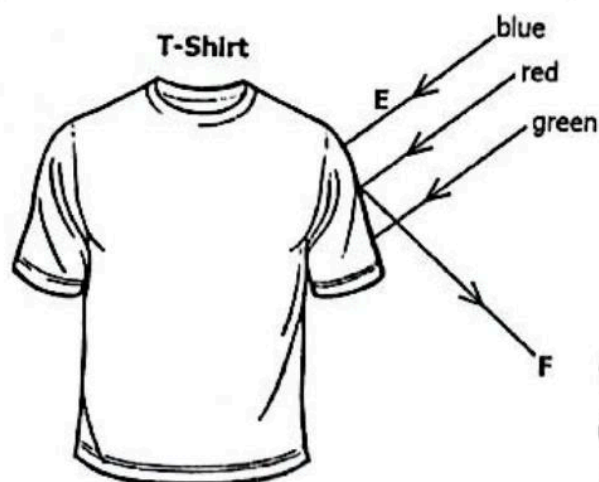
47. (a) Mention any **two** ways in which a crop farmer can identify crops affected by diseases.
- ✓ Holes in leaves, fruits, seeds, roots and stems.
 - ✓ Spots on leaves and fruits.
 - ✓ Rotten plant parts.
 - ✓ Deformed plant parts.
 - ✓ Wilting of crops.
 - ✓ Poor growth
- (b) Which crop pest transmits mosaic virus to cassava plants?
- ✓ White fly / white flies.
- (c) State any **one** non-cost measure that a crop farmer can use to control crop pests in the garden.
- ✓ Practising crop rotation.
 - ✓ Pruning crops.
 - ✓ Use of clean planting materials.
 - ✓ Hanging scare crows in the garden.
 - ✓ Regular weeding.
 - ✓ Use of mouse traps.
48. (a) Name any **two** parts on a house that aid in air circulation.
- ✓ doors // windows // ventilators // louvers.
- (b) Which method of heat transfer aids in air circulation in a house?
- ✓ Heat transfer by convection/convection.
- (c) State the importance of a chimney on a factory.
- ✓ It lets out smoke.
49. (a) Identify any **one** non-diarrhoeal disease that affects the digestive system.
- ✓ peptic ulcers
 - ✓ appendicitis
 - ✓ liver cancer
 - ✓ liver abscess
 - ✓ liver cirrhosis
- (b) State any **two** health habits that affect the proper functioning of the digestive system.
- ✓ Poor feeding
 - ✓ Alcohol consumption
 - ✓ Irregular meals
 - ✓ Drinking unboiled water
 - ✓ Eating uncooked meat
 - ✓ Improper chewing of food
 - ✓ Eating contaminated food
 - ✓ Tobacco smoking
 - ✓ Eating too much food
 - ✓ Failure to do regular exercises
- (c) State any **one** role of the tongue during digestion of food.
- ✓ It rolls food into a bolus for easy swallowing
 - ✓ It mixes food with saliva//it pushes food to the gullet during swallowing.

50. The diagram below shows a simple demonstration of a water purification system. Study and use it to answer the questions that follow.



- (a) Name any **one** activity that can be done to water at point **W**.
✓ Boiling//chlorination//fluoridation//treating water using recommended chemicals.
- (b) Why is swampy water filtered before being taken at point **W**?
✓ To remove dirt from water ✓ To make water clean
- (c) State the importance of passing water through point **W**.
✓ It helps to kill germs in water.
- (d) Mention any **one** other activity that can be done to swampy water before being taken to point **W**.
✓ Decanting (Reject filtering/decantation)
51. (a) What term is used to mean the amount of material in a given volume of a substance?
✓ density
- (b) The amount of material in a given volume of a substance is 4g/cc occupying the amount of space of 10cc. calculate the quantity of matter in that substance. (03 Marks)
- Mass = density x volume
= 4g/cc x 10cc
= 4g x 10cc
= 40g The quantity of matter in that substance is 40g
52. (a) Write any **two** things that intestinal worms obtain from the human body.
✓ digested food // blood // shelter
- (b) State any **two** ways in which intestinal worms affect the health of a child.
✓ They cause malnutrition - They cause anaemia
✓ They cause itching of the anus - They cause pain in the stomach
✓ They cause loss of body weight - They make the child's body swell
✓ They cause body weakness

53. The diagram below shows light rays of different colours striking a T-Shirt. Study and use it to answer the questions that follow.



- (a) Name the light rays marked **E** and **F**.
(i) **E** : incident ray
(ii) **F** : reflected ray

- (b) By observing the diagram above critically, what is the colour of the T-Shirt?
✓ red
(c) Give a reason to defend your response in (b) above.
✓ The T-Shirt has absorbed all other colours and reflected only red.

54. (a) Write any **two** diseases that an individual can contract due to lack of clean water for promoting personal hygiene.
✓ Ringworm infection // scabies // impetigo // athlete's foot
(Mnemonic: SARI)
(b) Give any **two** ways in which an individual can protect him/herself from diseases caused by lack of clean water.
✓ Regular bathing. ✓ Ironing clothes and bedding.
✓ Regular washing of clothes. ✓ Early treatment.
✓ Avoid sharing clothes, towels, bedding and combs.

55. A boy wanted to know if air moves things. He made a kite using the following materials.

A sheet of paper, two sticks, short strings and a long string.

Write four steps that the boy used to make a kite to show that air moves things.

1. He tied two sticks crossing each other using short strings.
2. He placed a sheet of paper on the sticks and tied it.
3. He tied a long string at the point where short strings meet.
4. He ran while holding the farthest end of the string which made the kite to move upwards in the sky.

END