



THE HIGHWAY EXAMINATIONS PRIMARY LEAVING MOCK OFFICIAL GUIDE

2025

INTEGRATED SCIENCE

Time Allowed: 2 hours 15 minutes

Index No.

Random No.						Personal No.		

Candidate's Name:

Candidate's Signature:

Read the following instructions carefully:

1. Do not write your **school** or **district name** anywhere on this paper.
2. This paper has two sections **A** and **B**. Section **A** has **40 questions** and Section **B** has **15 questions**. This paper has **14 pages** printed altogether.
3. Answer **all** questions. All the working for both sections **A** and **B** must be shown in the spaces provided.
4. **All** answer **must** be written using a **blue** or **black** ball point pen or ink. Any work written in pencil will **NOT** be marked.
5. Unnecessary **changes** in your work and handwriting that cannot be easily ready may lead to **loss of marks**.
6. Do not fill anything in the box indicated: **"FOR EXAMINERS' USE ONLY"** and the boxes inside the question paper.

FOR EXAMINERS' USE ONLY		
QN. NO.	MARKS	EXR'S NO
1 - 10		
11 - 20		
21 - 30		
31 - 40		
41 - 43		
44 - 46		
47 - 49		
50 - 52		
53 - 55		
TOTAL		

SECTION A: 40 MARKS

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

1. Name the group of vertebrates to which a snake belongs.

✓ **Reptiles**

Reject: **cold blooded vertebrates // cold blooded.**

2. State any **one** example of diarrhoeal diseases.

✓ **Cholera**

✓ **Dysentery**

✓ **Typhoid**

✓ **Diarrhoea.**

3. Identify the energy resource got from animals.

✓ **Animal energy**

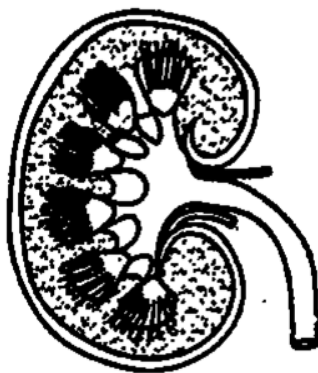
Reject: **Cow dung // Biogas // food.**

4. Name the group of tuber crops to which a cocoyam belongs.

✓ **Stem tubers.**

Reject: **Root tubers**

The diagram below shows a human body organ. Use it to answer questions **5** and **6**.



5. Identify the main function of the organ shown above in the human body.

✓ **To produce urine**

Reject: **To filter blood.**

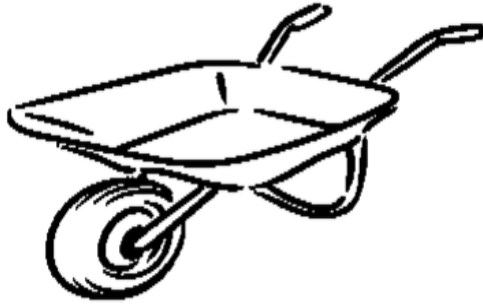
6. State the danger of eating raw salt to the human body organ above.

✓ **It leads to kidney stones**

✓ **Leads to formation of stones by salt in the above organ.**

7. Mention the type of movable joint which allows movement in many directions.
✓ **Ball and socket joint.**
Reject: **Hinge joint // pivot joint // gliding**
8. Give a reason why a tippy tap is operated using a foot.
✓ **To prevent contamination of hands with germs.**
✓ **To prevent hands from getting into contact with germs**
9. Name the type of teeth which is missing in the milk set of teeth.
✓ **Premolars**
Reject: **Molars**
10. Mention any one cattle disease that can be prevented by dipping cattle.
✓ **Heartwater// Redwater// Anaplasmosis// East coast fever.**
11. Name the food made by plants during the process of photosynthesis.
✓ **Glucose**
12. Identify the disease which is spread by fresh water snail.
✓ **Bilharzia**
Reject: **Bilharziasis // Schistosomiasis // filarial worm // Onchocerciasis.**
13. Name the structures in the human body where food is broke down to release energy.
✓ **Body cells // inside the body.**
Reject: **Lungs**
14. Give any **one** method used to preserve milk.
✓ **Pasteurization // Refrigeration // Sterilisation**
Reject: **Boiling**
15. Mention any **one** group of non flowering plants.
✓ **Algae // Spore bearing plants // Seed bearing plants.**
16. State the cause of marasmus among babies.
✓ **Lack of all food nutrients /deficiency // food values in the human body.**
Reject: **Lack of carbohydrates.**
17. Mention the type of blood vessel which transports blood towards the heart.
✓ **Vein**

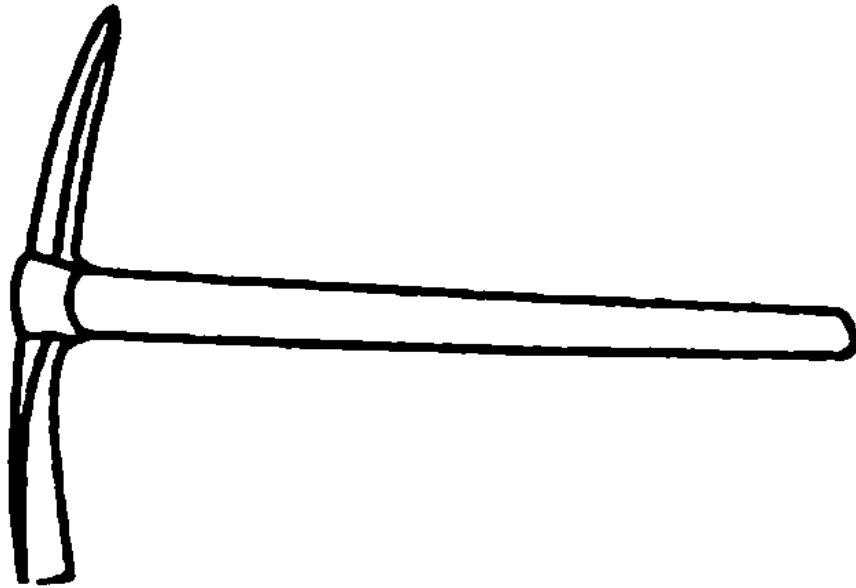
The diagram below shows a simple machine. Study and use it to answer questions **18** and **19**.



18. Name the group of machines shown above.
✓ **Levers**
19. State any **one** way of increasing friction on the above machine.
✓ **By putting grips on the handle**
✓ **Putting treads on the wheel**
20. State any **one** good quality of a good stake for supporting tomato plants.
✓ **Should be strong**
✓ **Should not be too close to the plant**
✓ **Should not rot easily.**
21. Name any **one** component of soil.
✓ **Living organisms // water // Rock particles // Water // Dissolved mineral salts // Air.**
22. Mention any **one** human activity that can help to conserve soil.
✓ **Crop rotation // planting trees // mulching // applying fertilisers // Agroforestry // terracing.**
23. Give any one effects of clouds in the environment.
✓ **The cause lightning which kills people**
✓ **They cause heavy storms which spoil property and crops**
24. State any one way in which earthworms are important in the environment.
✓ **Improves on soil fertility**
✓ **Improves water drainage in the soil**
✓ **Helps in the formation of humus**
✓ **Aerates the soil by creating tunnels in the soil.**
Reject
✓ **They die to form humus**

25. Give any **one** reason why a toothbrush should have bristles.
✓ **To remove the remaining food particles in between the teeth.**
26. State any **one** common accident at home.
✓ **Cuts // Snake bites // Burns // Scalds // Lightning // Poisoning // Nose bleeding // Dislocation**
Reject: **Falls // Knocks**
27. Mention any **one** type of rabbit hutch.
✓ **Caged hutch // Morant hutch**
28. Give any one example of primary sex characteristics that occurs in boys
✓ **Presence of penis**
✓ **Presence of testes (testis)**
✓ **Presence of scrotum**
✓ **Presence of epididymis**
✓ **Presence of vas deferens**
29. State any **one** activity that a school child can do to promote sanitation.
✓ **Mopping classroom**
✓ **Sweeping the compound**
✓ **Draining stagnant water**
✓ **Smoking latrines**
✓ **Scrubbing toilets**
✓ **Proper disposal of human wastes**
✓ **Clearing bushes around the school**
✓ **Proper disposal of rubbish**
✓ **Constructing urinals**
✓ **Dusting tables**
✓ **Scrubbing verandas and floor**
30. Give a reason why the filament of an electric bulb is coiled
✓ **To increase electrical resistance**
Reject: **To fit in the glass envelop**
31. State the importance of water proof to bees.
✓ **Protect bees from rainfall**

The diagram below shows a garden tool. Study and use it to answer question **32** and **33**.



32. Identify the garden tool above.
✓ **Pick axe**
33. Give any **one** way in which the above garden tool is useful to farmers.
✓ **Used for digging holes when fencing**
✓ **Used for breaking stones in the garden into small pieces.**
✓ **Used for digging manure pit.**
34. Mention any **one** reason why we are advised to bathe
✓ **To remove dirt and germs from the body**
✓ **To prevent bad body smell**
✓ **To prevent skin diseases like ringworm infection and scabies**
35. State any **one** characteristic of living things.
✓ **They feed**
✓ **They grow**
✓ **They reproduce**
✓ **They excrete**
✓ **They eat**
✓ **They breathe.**

Reject: **They die**

36. Mention any **one** way in which vaccines are administered into the body.
- ✓ **Through injection**
 - ✓ **Through drops in the mouth.**
37. Give any **one** activity at home that requires the use of filtration method.
- ✓ **When separating water from soil**
 - ✓ **When separating juice from fruits**
 - ✓ **When separating tea from tea leaves**
 - ✓ **When preparing local salt.**
38. State **one** way in which physical exercise helps to improve the efficiency of the digestive system.
- ✓ **Increases appetite for food.**
 - ✓ **Improves mechanical digestion.**
 - ✓ **Keeps the stomach muscles strong.**
39. Give a reason why sweet potatoes are planted on mounts.
- ✓ **To enable more tubers grow**
40. Identify any **one** reason why breastfeeding is recommended for at least two years.
- ✓ **Breast milk is a complete diet for the baby**
 - ✓ **To strengthen the immunity of the baby.**
 - ✓ **It delays the next pregnancy // it delays monthly ovulation**
 - ✓ **Breastfeeding improves the health of the mother**

SECTION B: 60 MARKS

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

41. (a) Name any **one** example of poultry vice in a deep litter house.
- ✓ **Feather pecking**
 - ✓ **Egg eating**
 - ✓ **Cannibalism**
 - ✓ **Egg hiding**
- Reject: **Toe pecking // Vent pecking**
- (b) Mention any **two** causes of poultry vices in a deep litter house.
- ✓ **Shortage of feeds // lack of enough feeds for birds.**
 - ✓ **Keeping many birds in a small space // over crowdedness of birds**
 - ✓ **Poor ventilation in a poultry house**
 - ✓ **Boredom among birds.**
- (c) State any **one** way of controlling poultry vices in a deep litter house.
- ✓ **Hanging green leafy vegetables in a poultry house.**
 - ✓ **Provide birds with enough feeds**
 - ✓ **Fixing perches in a poultry house**
42. (a) Apart from a toad, name any one other example of amphibians.
- ✓ **Frogs // toad // caecilian // newt // salamander**
- (b). State any **one** way in which amphibians are important in the environment.
- ✓ **They are eaten as food by some people**
 - ✓ **They feed on insect vectors like mosquitoes**
 - ✓ **Meat from amphibians is used as baits for catching fish.**
 - ✓ **Caecilians help to aerate the soil thus improving soil fertility.**
 - ✓ **Caecilians add wastes which add humus into the soil.**
- (c). Explain any **one** way in which amphibians are adapted to living in water. **(2 marks)**
- ✓ **They have moist skin which allows gaseous exchange.**
 - ✓ **They have webbed feet which allows them to swim easily in water**

43. (a) Identify any **two** uses of pulleys in our daily life
- ✓ **Pulleys are used for raising flags on flagpoles**
 - ✓ **Pulleys are used in cranes to lift heavy loads**
 - ✓ **Pulleys are used in elevators and house lifts**
 - ✓ **Pulleys are used to draw curtains in curtain boxes**
 - ✓ **Pulleys are used to move window curtains.**
 - ✓ **Pulleys are used to lift building materials during construction**
 - ✓ **Pulleys are used in scaffolds for painting high buildings**
 - ✓ **Pulleys are used to fetch water from deep wells**
- (b) Calculate the effort needed by a boy to lift the load of **140 kg** using a single movable pulley **(2 marks)**

Method 1

Let the effort be E

$$M. A = 2$$

$$\text{Load} = 120\text{kg}$$

$$M. A = \frac{\text{load}}{\text{Effort}}$$

$$2 = \frac{140\text{kg}}{E}$$

$$2 \times E = \frac{140 \text{ kgf} \times E}{E}$$

$$\frac{2 \times E}{2} = \frac{140\text{kgf}}{2}$$

$$L = 140\text{kg} \therefore \underline{\underline{\text{Load} = 70\text{kgf}}}$$

METHOD 2

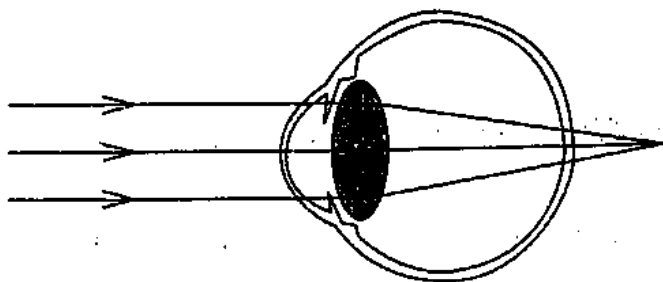
$$\text{Effort} = \frac{1 \times \text{load}}{2}$$

$$\text{Effort} = \frac{1 \times 140 \text{ kg}}{2}$$

$$\text{Effort} = \frac{1 \times 140 \text{ kg}}{2}$$

$$\underline{\underline{E = 70 \text{ kg}}}$$

44. The diagrams below show human eye defect. Study and use them to answer questions that follow.



- (a) Name the human eye defect shown above.
✓ **Long sightedness // Hypermetropia.**
- (b) Identify any **one** cause of the above eye defect.
✓ **Too short eyeballs**
✓ **Too thin eye lens**
- (c) Mention the type of lens used to correct the above eye defect.
✓ **Convex lens**
- (d) Apart from the above, mention any **one** other human eye defect.
✓ **Short sightedness // Myopia**
45. The table below shows forms of accidents in part **A** and their first aid in part **B**.

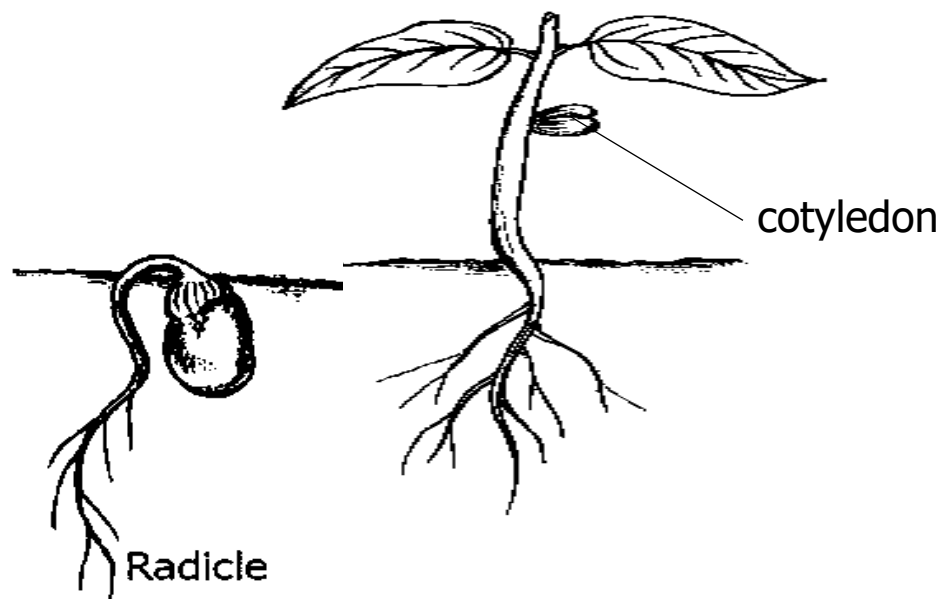
Part A: Form of accident	Part B: First aid
Electric shock	Tepid sponging the casualty
Nose bleeding	Tie the bandage slightly above the affected part.
Snake bite	Use dry wooden stick to remove the victim
Fever	Lean the casualty forward

Match the correct forms of accidents with their importance in the spaces provided below.

- i. Electric shock.
✓ **Use dry wooden stick to remove the victim**
- ii. Nose bleeding.
✓ **Lean the casualty forward**
- iii. Snake bite
✓ **Tie the bandage slightly above the affected part.**
- iv. Fever.
✓ **Tepid sponging the casualty**

46. (a). Give the meaning of the term weather.
✓ **Weather is the condition of the atmosphere at a given time and place**
- (b). You are provided with the following materials: Electric stove, kettle, metallic cover and mug.
Describe how you can use the above items to show how rain is formed. *(03 marks)*
- i. **Boil water in the kettle and cover the top part until water evaporates.**
 - ii. **Hold a metallic cover at the opposite end where steam passes.**
 - iii. **Steam passes out to reach the cold metallic cover and condenses back to liquid in the mug.**
47. (a) Give any **one** example of natural magnets.
✓ **Lodestone // magnetite**
✓ **Earth**
- (b) Mention any **two** ways of preventing magnets from losing its magnets.
- ✓ **By Keeping magnets in dry places.**
 - ✓ **By keeping magnets facing North-South direction.**
 - ✓ **By Painting magnets to prevent rusting.**
 - ✓ **By keeping magnets away from heat.**
 - ✓ **By keeping them in dry containers with iron keepers on their ends.**
 - ✓ **By keeping / storing magnets in iron keepers.**
- (c) State any one home device that use electromagnets.
✓ **Electric bell // Electric alarms // Sound amplifiers**
✓ **Radio speakers // Electric motors // Generators**

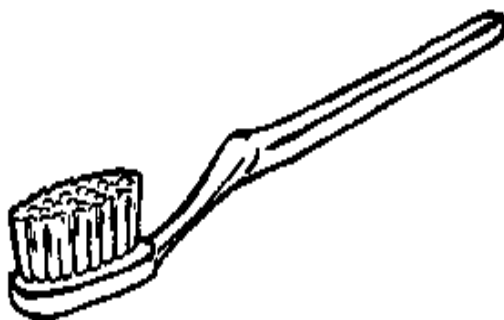
48. The diagrams below show types of germination. Study and use them to answer the questions that follow.



- a) Name the type of germination shown above.
✓ **Epigeal germination**
- b) Give any one plant which undergoes the above type of germination.
✓ **Soya beans**
✓ **Beans**
✓ **Peas**
✓ **Coffee**
✓ **Simsim.**
- c) State any one condition necessary for the above type of germination to take place.
✓ **Water**
✓ **Oxygen**
✓ **Warmth**
Reject: **Moisture**
- d) Give a reason why the radicle come out first as shown in the types of germination marked above.
✓ **To absorb water and mineral salts for the seedling**
✓ **To hold the seedling firmly into the soil.**

49. (a) Mention any **two** examples of viral diseases in cattle.
✓ **Rinder pests // foot and mouth // Pneumonia**
- (b) Apart from application of quarantine, state any one way in which viral diseases can be controlled in cattle.
✓ **Through regular vaccination**
✓ **Through isolation of infected animals**
- (c) State any **one** way application of quarantine controls viral diseases in cattle.
✓ **Enables proper treatment**
✓ **It limits the movement of animals**
✓ **Enables sick animals to recover without spreading the disease.**
✓ **It helps to prevent the spread of animal diseases in an area.**
50. (a). Name any **one** PIASCY message that helps to prevent teenage pregnancy among girls at school.
✓ **Avoid bad peer groups.**
✓ **Abstain from pre-marital sex // Abstain from sex**
- (b) Give any **one** way in which PIASCY messages are important to school children.
✓ **They prevent school dropouts**
✓ **They prevent early marriages among school children.**
✓ **They help to prevent teenage pregnancy among school girls.**
✓ **They prevent school children from contracting HIV/AIDS.**
- (c). State any **two** ways PIASCY message safeguard adolescent girls from teenage pregnancy.
✓ **Encourages girls to abstain from premarital sex**
✓ **Encourages girls to avoid bad peer groups.**
✓ **Create awareness about teenage pregnancy.**

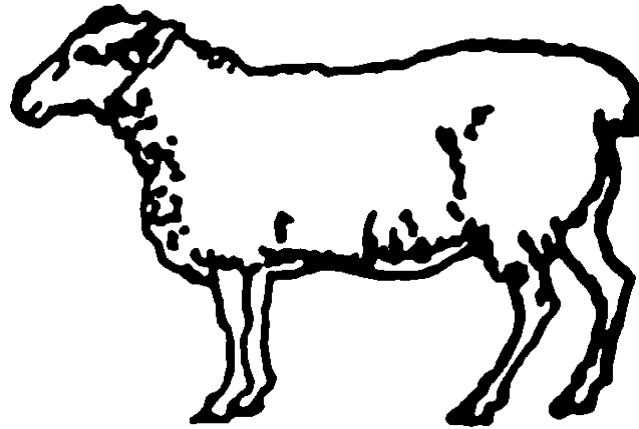
51. The diagram below shows an item used to promote personal hygiene. Use it to answer questions that follow.



- (a) Name the item above used to promote personal hygiene.
✓ **Toothbrush**
- (b) State any **one** way of caring for the item above after use.
✓ **By washing it after brushing the teeth.**
- (c) Apart from the above, give any **one** material used when brushing the teeth.
✓ **Local brush // Clean water // Toothpaste**
- (d) Identify any **one** part one should focused on when brushing the teeth.
✓ **Tongue // Surface of the teeth.**
52. (a) Give the meaning of the term heat.
✓ **Heat energy is the form of energy that moves from a hotter point to a colder point.**
✓ **Heat is a form of energy that flows from a hotter point to a cooler point**
(Reject: **Is the form of energy that increases temperature of an object**)
- (b) Mention the state of matter in which heat travels fastest by;
(i) Fastest by conduction ----- **solids**
(ii) Faster by convection ----- **gases**
- (c) Mention any **one** application of heat transfer by convection in our daily life.
✓ **Helps in boiling water // helps in rain formation.**
✓ **Helps in lighting charcoal stoves and cigarettes.**
✓ **It drives bad smell from latrines**
✓ **Drives smoke from the kitchen or factory.**

53. (a) State any **one** way in which rabbits are useful to people.
- ✓ **They are source of meat.**
 - ✓ **They are sold for money**
 - ✓ **They are source of fur used in the textile industries**
 - ✓ **Their skin is used to make leather products**
 - ✓ **Rabbits are used for practical studies at school**
 - ✓ **Their droppings are used as farmyard manure in gardens.**
- (b) Name any **two** exotic breeds of rabbits kept in your community.
- ✓ **Dutch rabbits // Rex rabbits // chinchilla rabbits**
 - ✓ **Lop rabbits // angora rabbits**
 - ✓ **New Zealand white rabbits**
 - ✓ **Californian rabbits**
- Mnemonic: **DR. CLANC**
- (c) Give any **one** reason why rabbits hutch should be raised above the ground.
- ✓ **To protect the floor from dampness**
 - ✓ **To protect rabbits against wild animals**
 - ✓ **To prevent rabbits from stepping in their droppings**
54. (a) Name the germ spread by anopheles' mosquito to people.
- ✓ **Protozoa.** Reject: **plasmodium.**
- (b) Identify the type of life cycle to which anopheles' mosquito undergoes.
- ✓ **complete life cycle**
- (c) Give the reason for your answer in (b) above.
- ✓ **The larvae stage is completely different from the adult stage in structure**
 - ✓ **The larvae stage is completely different from the adult stage in structure and function**
- Reject: **undergo four stages // Has four stages.**
- (d) Mention any **one** factor that can make the vector above to spread malaria to a person even when in a treated mosquito net.
- ✓ **Patches in the mosquito net**
 - ✓ **Torn net**
 - ✓ **Poor dressing of the net onto the bed.**

55. The diagram below shows a farm practice done in sheep rearing. Study and use it to answer the questions that follow.



- (a) Name the farm practice shown above.
✓ **Docking**
- (b) State any **one** reason why the above farm practice is carried out.
✓ **To prevent flystrikes.**
✓ **To improve the hygiene // To keep the sheep clean**
Reject: **To ease mating in ewes**
- (c) Identify any **two** advantages of carrying out the above farm practice.
✓ **It enables the sheep to grow fat**
✓ **It keeps the sheep clean**
✓ **It makes mating easy in ewes**
✓ **It exposes the vulva to the ram.**