

SUREKEY

PLE PREPARATION EXAMINATION

INTEGRATED SCIENCE

SET
3



OFFICIAL MARKING GUIDE



Let Quality speak for itself

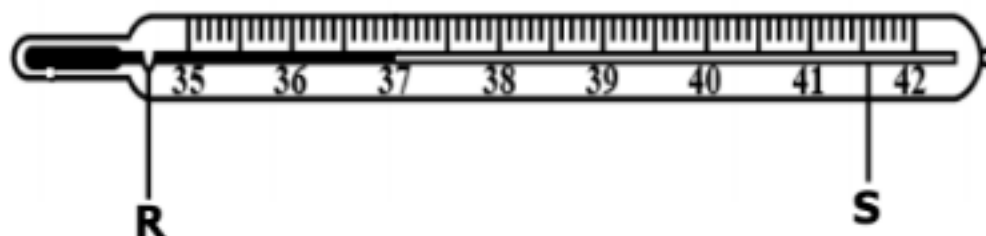


SECTION A: 40 MARKS

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

1. Name the gas used for preserving sodas.
• **Carbon dioxide.**
2. State the liver disease caused by excessive drinking of alcohol.
• **Liver cirrhosis/ cirrhosis.**
3. Which condition requires the use of tepid sponging as a way of giving First aid?
• **Fever.**
4. Name the group of crops that produce grains on cobs.
• **Cereal crops/ cereals.**
5. State any **one** way of protecting water sources from pollution.
• **Fencing water sources.**
• **Avoid washing cars in/ near water sources.**
• **Ensure proper disposal of domestic wastes.**
• **Avoid discharging industrial wastes in water bodies.**
• **Avoid fish poisoning.**
• **Avoid bathing near/ in water sources.**

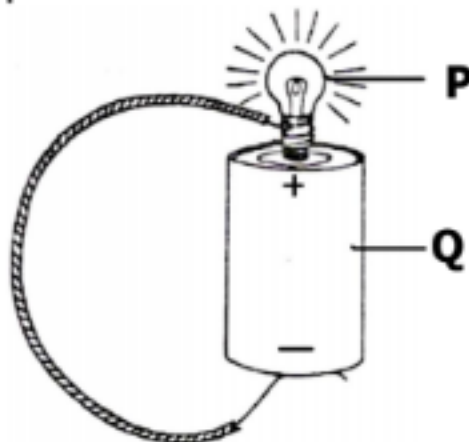
The diagram below is of a **clinical thermometer**. Study and use it to answer question **6** and **7**.



6. Name the part marked **S**.
• **Bore**

7. State the function of part marked **R** on the clinical thermometer above.
- **To prevent the back flow of mercury before the actual temperature is read.**
8. Which type of energy is possessed by a passenger sitting in a moving car?
- **Potential energy.**
9. Why is the trachea made up of rings of cartilage?
- **To keep it open all the time.**
10. Apart from building, state any **one** other way in which sand is useful to people.
- **It is used for making glasses.**
 - **It is used for making sand papers.**
 - **It is used for scrubbing saucepans.**
11. What is the importance of a queen excluder in a top bar hive?
- **It separates the honey chamber from the brood chamber.**
 - **It prevents the queen bee from laying eggs in the honey chamber**
 - **It prevents the queen bee from eating honey.**
12. By what process do plants lose water to the atmosphere?
- **Transpiration.**
13. How does castration help to prevent unnecessary mating in farm animals?
- **Testes/ testicle that produce sperms are removed.**
14. Give any **one** way in which a farmer can improve the fertility of the soil without the use of fertilizers.
- **By practising crop rotation.**
 - **By mulching the soil.**
 - **By carrying out agro forestry.**
 - **By carrying out mixed farming.**
 - **By planting trees.**

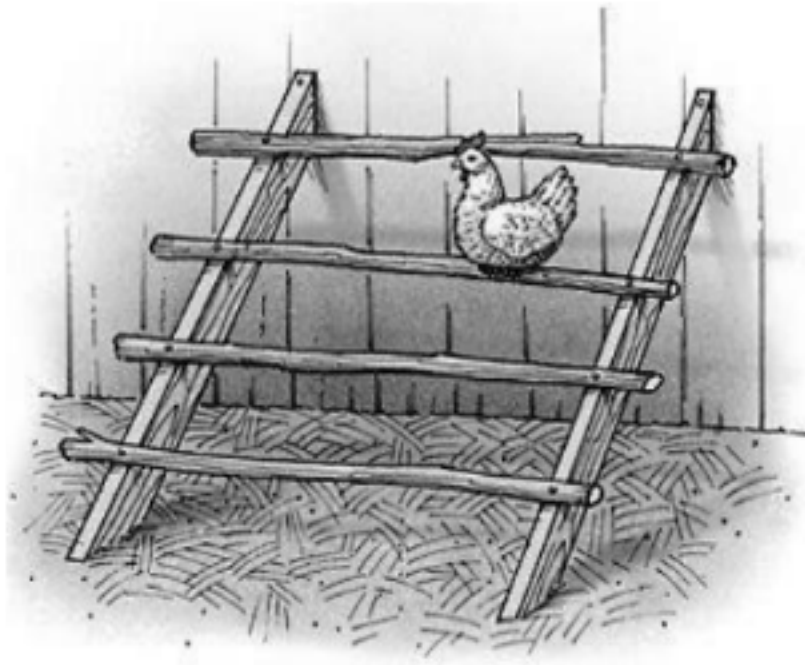
The diagram below shows a **simple electric circuit**. Study and use it to answer questions **15** and **16**.



15. Name the part marked **P**.
• **An electric bulb.**
16. What energy change takes place in the part marked **Q** when the circuit is complete?
• **Chemical energy changes to electrical energy.**
17. Which intestinal worm causes itching at the anus?
• **Pin/ thread worms.**
18. How do animals make use of the gas given out by plants during photosynthesis?
• **For respiration.**
19. State any **one** use of electromagnets to people.
• **They are used in electric bells**
• **They are used in crane to lift heavy metallic materials**
• **They are used in sound amplifiers and loud speakers.**
20. Apart from winnowing, give **one** other way in which wind is useful to a crop farmer.
• **It helps in pollination of their crops**
• **It helps in drying their harvested crops.**
21. Which part of a fish has similar function as wings of a bird?
• **Fins/ caudal fin/ tail fin**
22. State any **one** characteristic that shows that a maize grain is a fruit.
• **It has two scars.**

23. Which type of blood vessels carry blood away from the heart?
- **Arteries.**
24. Give any **one** reason why bottle feeding is discouraged by health workers.
- **Bottle milk is not easily digested in the babies' stomachs**
 - **Bottle milk does not contain a balanced diet.**
 - **Bottle milk easily gets contaminated**
 - **Bottle milk does not contain antibodies**
 - **Bottle feeding encourages early pregnancy**
25. Name any **one** place where convection in gases is applied.
- **In living houses**
 - **Kitchens**
 - **VIP latrines**
26. Name the part at the joint that prevents the bone from rubbing against each other.
- **Cartilage.**
27. Give any **one** way in which fungi are useful to human health.
- **Some fungi are eaten as food**
 - **Some fungi are used as local medicine**
 - **Some fungi are used to make antibiotics**
 - **Yeast is a source of vitamin B that prevents beriberi**
28. Why is BCG vaccine given to babies at birth?
- **Babies are born with low natural immunity against tuberculosis.**
29. In which part of the alimentary canal does digestion of fats begin?
- **Duodenum.**
30. What is the danger of using sharp objects to clean the ears?
- **It may lead to damaging of the eardrum.**
 - **Sharp objects may damage the ear drum.**

The diagram below shows it an item commonly used in poultry house. Study and use it to answer questions **31** and **32**.



31. Name the item shown above.

- **A perch.**

32. In which **one** way is the item shown above useful in a poultry house?

- **It keeps bird busy to prevent boredom**
- **It enables birds to do physical exercises**
- **For birds to play and rest**

33. What form of energy enables a lens camera to work?

- **Light energy**

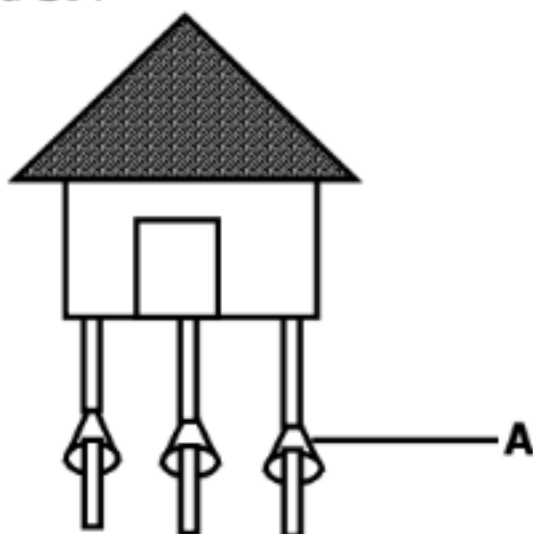
34. Give any **one** health habit that improves the working of the kidneys.

- **Feeding on a balanced diet**
- **Drinking plenty of clean boiled water**
- **Avoid taking a lot of alcoholic drinks**
- **Avoid holding back urine for along time**
- **Eat food containing less salt**
- **Do not eat raw salt**
- **Going for medical checkups regularly**

35. State the biological method of controlling mosquitoes in the environment.

- **Keeping/ rearing fish in nearby ponds**
- **Allowing amphibians to stay in ponds.**

The diagram below shows a **farm storage facility**. Study and use it to answer questions **36** and **37**.



36. Identify the farm storage facility above.

- **A granary**

37. What is the function of part marked **A** to the farm storage facility above?

- **It prevents rats from entering the granary.**

38. Give any **one** emotional change which occurs in girls and boys during adolescence.

- **Adolescents become interested in the people of the opposite sex.**
- **Adolescents rebel against rules of their parents.**
- **Adolescents move in groups.**
- **Adolescents become confused about body changes**

39. Name the disease of rabbits that can also affect human beings.

- **Pneumonia**

40. What characteristic makes water to be called a universal solvent?

- **It dissolves almost all solutes**

SECTION B: 60 MARKS

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

41. (a) State any **two** ways in which pests affect crop production.
- **They damage crops and affect their harvests**
 - **They reduce crop yields**
 - **They cause decaying of root crops**
 - **They lead to leaf curling**
 - **They reduce the quality of yields from harvest**
- (b) Give any **two** ways of preventing pests from damaging stored crops.
- **Seed dressing**
 - **Putting rat guards on granary stands**
 - **Oiling granary stands**
 - **Disinfecting storage facilities**
 - **Poisoning**
 - **Trapping**
 - **Using a cat to kill and eat rats**
42. The diagram below is of a device that uses wind to function. Study and use it to answer the questions that follow.



- (a) Name the device shown above.
- **A windmill**

(b) State any **two** ways in which the above device is useful to people.

- **It is used to generate electricity for pumping water**
- **It is used to generate electricity for lighting houses**
- **It is used to generate electricity for powering grinding mills**
- **It is used to generate electricity for irrigation**
- **It is used to generate electricity for saw milling timber**

(c) Apart from the device shown above, mention any **one** other device that uses wind to function.

- **Dhows**
- **Wind sock**
- **Wind vane**
- **Wind cock**
- **Anemometer**
- **Boats**

43. In the table below, part **A** shows some terms commonly used in measurement and part **B** shows their meanings.

A: (TERMS)	B: (MEANINGS)
Mass	Force of gravity acting on an object.
Volume	Mass per unit volume of a substance
Density	Quantity of matter an object contains
Weight	Amount of space an object occupies.

Write the correct meaning to the term in the space provided below.

- (i) Mass: **Quantity of matter an object contains**
- (ii) Volume: **Amount of space an object occupies**
- (iii) Density: **Mass per unit volume of a substance**
- (iv) Weight : **Force of gravity acting on an object.**

44. (a) Give any **two** non infectious diseases that attack the lungs.

- **Lung cancer**
- **Emphysema**
- **Asthma**

(b) State any **two** ways of controlling non infectious diseases of lungs given above.

- **Avoid smoking**
- **Keep away from very cold places**
- **Keep away from dusty places**
- **Go for medical checkups**

45. (a) To which group of tuber crops do sweet potatoes belong?

- **Root crops/ root tuber crops**

(b) How is the propagation of sweet potatoes similar to that of cassava?

- **Both are propagated by planting stem cuttings**
- **Both are propagated vegetatively**
- **Both are propagated by natural vegetative method**

(c) Give any **two** other crops that are propagated in the same way as sweet potato and cassava.

By stem cuttings:

- **Sugar canes**
- **Hibiscus crops**

By vegetative propagation:

- | | |
|---------------------|-------------------------|
| • Pineapples | • Irish potatoes |
| • Bananas | • Orange crops |
| • Yams | • Lemon crops |

46. (a) What type of change is freezing?

- **Physical change**

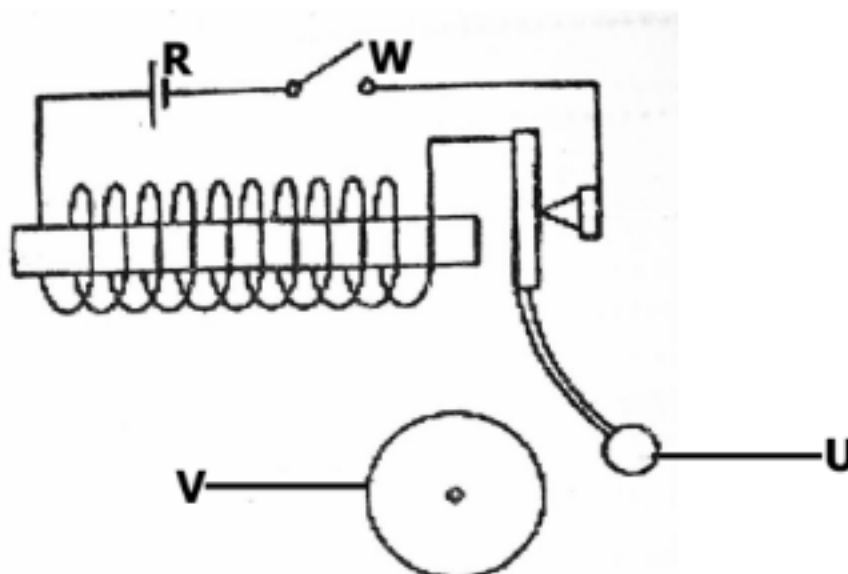
(b) State any **one** way in which freezing is useful to people.

- **It helps in food preservation**
- **It helps in making ice cream and ice cubes**

- (d) Apart from freezing, mention any **two** other physical processes that are caused by heat loss.

- **Condensation**
- **Deposition**
- **Contraction**

47. The diagram below shows an electric bell. Study and use it to answer the questions that follow.



- (a) Name the parts marked **R** and **V**.

- (i) **R Battery**
- (ii) **V Gong**

- (b) State the energy change that takes place when part **W** is closed.

- **Chemical energy changes to electrical energy**
- **Electrical energy changes to sound energy**

- (c) How is part marked **U** useful on the electric bell?

- **It hits the gong to produce sound when the circuit is Complete**

48. (a) State any **one** condition that can lead to the outbreak of Newcastle disease in poultry.

- **Contaminated water and food**
- **Overcrowding of birds**
- **Unhygienic poultry house**
- **Infection from other fowls**

- (b) Mention any **two** signs and symptoms of Newcastle disease in poultry.
- **Green diarrhea**
 - **Staggering**
 - **Mucus discharge from the mouth**
 - **Coughing**
 - **Sneezing**
 - **Difficulty in breathing**
 - **Dropping wings and bending of the neck**
 - **Loss of appetite**
 - **Moulting of feathers**
- (c) Give any **one** way in which a poultry farmer can prevent the outbreak of Newcastle disease in poultry.
- **Vaccinate the birds regularly**
 - **Keep the coop clean**
 - **Kill and bury infected birds**
 - **Disinfect the coop regularly**
 - **Cull the infected birds**

49. (a) State any **one** advantage of each of the following activities done on a farm.

(i) Dehorning :

- **It makes animals easy to handle**
- **It reduces risks of animals injuring others**
- **It increases space in the kraal**
- **Many animals are kept in a small area**

(ii) Steaming up:

- **It encourages proper growth of the foetus**
- **It helps to stimulate milk production**
- **It prepares the body of an in-calf for birth**
- **It prevents low birth weight**
- **It prolongs gestation period**

(b) Apart from dehorning and steaming up, list any **two** other routine activities carried out on a cattle farm.

• **Castration**

• **Feeding cattle**

- **Dipping**
- **Deworming**
- **Grazing**
- **Milking**
- **Vaccination**
- **Drying off**

- **Breeding**
- **Hoof trimming**
- **Spraying acaricides**
- **Animal numbering**
- **Tail bobbing**
- **Deticking**

50. (a) Mention **two** methods used to prepare clean water for washing clothes at home.

- **Decantation**
- **Filtration**

(b) State any **one** importance of washing clothes to human health.

- **It helps to remove dirt from clothes**
- **It helps to kill some parasites in clothes like lice**
- **It prevents bad smell in clothes**
- **It prevents some skin diseases like ring worm and scabies**

(c) Apart from washing, give any **one** other step followed when cleaning clothes at home.

- **Sorting**
- **Rinsing**
- **Drying**
- **Soaking**
- **Wringing**
- **ironing**

51. (a) Name **two** dangerous substances found in tobacco smoke.

- **Tar**
- **Irritants**
- **Nicotine**
- **Carcinogens**

(b) State any **two** effects of cigarette smoking by pregnant women to their unborn babies.

- **Leads to miscarriages**
- **Leads to premature birth**
- **Leads to underweight birth**
- **It leads to still birth**

52. (a) Apart from salting , mention any two other methods used to prevent meat from going bad.

- **Smoking**
- **Refrigeration**
- **Sun drying**
- **Pickling**

- **freezing**

- (b) In which way does salting prevent meat from going bad?
- **Salt dehydrates meat**
 - **Salt drains moisture from meat**
- (c) Name any **one** organism in the environment that provides food to people.
- **Plants**
 - **Animals**
 - **Fungi**

53. The diagram below shows **the head of a group of snakes**. Study and use it to answer the questions that follow.



(a) Name the parts marked **M** and **K**.

- M Fang**
- K Forked tongue**

(b) State the function of part marked **M**.

- **For injecting poison into an enemy**
- **For protection**

(c) Which group of snakes have the above nature of the head?

- **Poisonous snakes**
- **Venomous snakes**

54. (a) In which part of the female reproductive system of humans does each of the following take place?

- Fertilization: **Oviduct/ Fallopian tube**
- Implantation: **Uterus/ Womb**

(b) State any **two** ways of caring for the reproductive organs in humans.

- **Cleaning/ washing the sexual organs regularly**
- **Abstaining from sex when not married**
- **Early treatment of diseases/ infections of the reproductive system**
- **Use of condoms when having sexual intercourse**

55. The diagram below shows a **flush toilet**. Study carefully and use it to answer the questions that follow.



- (a) Name the parts labeled **E** and **G**.
- (i) E: **Cistern tank/ water tank**
 - (ii) G: **Toilet bowl**
- (b) State the function of the pipe marked **F** on the above toilet.
- **It takes urine and faeces to the septic tank**
- (c) Give any **one** way of maintaining the above toilet in a good working condition.
- **Cleaning it regularly**
 - **Flush the toilet with water after use**
 - **Scrub the floor with a toilet brush**
 - **Do not squat or stand on the bowl**
 - **Avoid using and throwing rough materials in the bowl**