

INTEGRATED SCIENCE AND HEALTH EDUCATION

SECTION A: 40 MARKS

Questions 1 to 40 carry one mark each.

1. Name the female reproductive cells in flowers.

Ovules

2. Which part of the human body performs a similar function as the lateral line of a fish?

Ear / Human Ear

3. Name the fungal skin disease which is spread through sharing clothes and beddings with the infected person.

Ringworm

4. Give a reason why carbon dioxide is used in fire extinguishers.

~~Carbon dioxide does not support burning~~

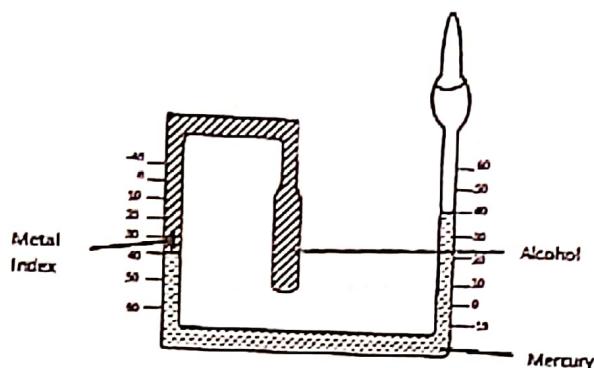
5. State one way in which electricity can be conserved at home.

~~By switching off all electric appliances whenever not needed~~

~~By using alternative sources of fuel instead of using electricity~~

~~By using energy saving appliances~~

Use the diagram of a weather instrument below to answer Question 6.



6. What is the use of this instrument at a weather station?

it is used to measure the highest and lowest temperature of the day.

7. How is smoke important during harvesting of honey?

Smoke helps to make bees dizzy and easy to handle.

Smoke scares bees / Calms the bees

8. Why should a cold compress be put on the part of the body with a strain?

To allow contraction of the muscle

Cools the temperature of the muscle

Reduces on pain, swelling of the muscle

9. Which method of heat transfer enables a person to roast maize on a charcoal stove?

Radiation.

10. Apart from wind, give one other factor which contributes to soil formation by weathering.

- **Accept even examples of the human activities**
- **Temperatures changes**
- **Rainfall**
- **Some Human activities**
- **Plant root penetration through rocks**
- **Moving animals**



- Acidic rain
- Heat

11. Give a reason why the biceps and triceps muscle are referred to as voluntary muscles.

They work under the will of the brain.

They are controlled by the brain

12. How can Rinderpest be prevented in cattle?

By vaccinating cattle every after six months

Slaughtering and burning or burying infected animals.

Isolating sick cattle from healthy ones

Regular vaccination

Reject By culling

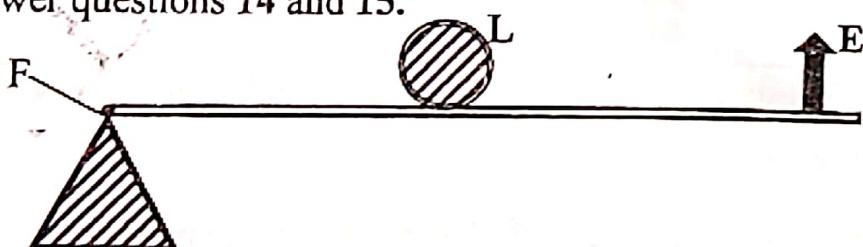
13. Why are male anopheles mosquitoes always common around plants?

To get juice from plants which they feed on.

Feed on nectar

Reject vector

The diagram below shows a representation of a lever machine. Study and use it to answer questions 14 and 15.



14. Name the class of levers represented in the diagram above.

Second class lever.

Second class of levers

15. Give a reason why all levers represented in the diagram require less effort to simplify work.

Their effort arm is longer than load arm.

The load arm is shorter than effort arm

16. How is the growing of leguminous plants important to the soil?

Leguminous plants help to improve the supply of nitrogen in the soil

Have root nodules with bacteria that fix nitrogen into soil.

Help plants to get nitrate

17. How is wind helpful in the reproduction of some plants?

Wind helps in pollination of some plants.

18. Name the optical instrument used to view distant objects.

Telescope

Binocular

19. How do animals make use of the gas given out by plants during photosynthesis?

Animals use the gas for respiration/breathing

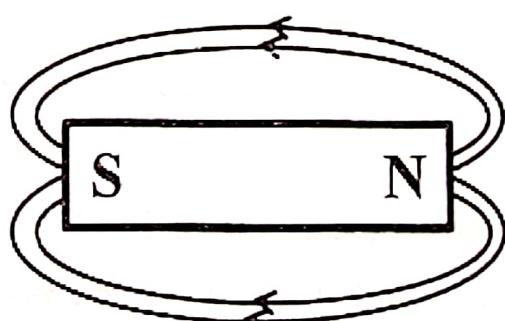
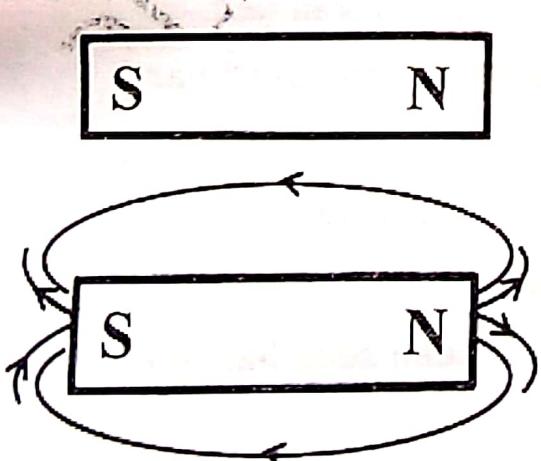
20. State the danger of eating half cooked meat or fish?

May lead to infestation of tapeworm.

Reject may lead to tapeworm infection



21. Draw magnetic fields on the bar magnet below.



22. Apart from Pertussis, name one other immunizable disease prevented using DPT Vaccine.

Diphtheria / Tetanus. Reject whooping cough

23. How does excessive alcoholism affect the intestines in human beings?

Excessive alcoholism causes intestinal ulcers.

Bloating/ inflammation of the intestine / intestinal bleeding

Reject peptic or gastric ulcers

24. Why is it not advisable to pour paraffin in pit latrines?

Paraffin kills maggots that help to reduce the amount of faeces in the pit latrine.

Reject paraffin kills maggots

25. In which way is the skin similar to the kidneys?

- Both are excretory organs
- Both remove waste products from the body
- Both remove Urea/salts/excess water from the body.
- Both belong to excretory system

26. State one way in which reflection is useful to people.

- It helps people to see body parts they cannot see directly.
- Helps people to see round corners with the help of periscopes.

27. Give one way in which a maize grain is different from a bean seed.

- A maize grain has one cotyledon whereas a bean seed has two cotyledons
- A maize grain stores food in the Endosperm whereas a bean seed stores food in the cotyledon
- A maize grain has two scars whereas a bean seed has one scar.

- A maize grain undergoes hypogea germination whereas a bean seed undergoes epigeal germination

28. State one characteristic which enables a toad to live in water and on land in its life cycle.

A toad uses gills for breathing at the tadpole stage whereas lungs at adult stage.

A toad uses moist skin to breathe in water while lungs when on land

29. How are red blood cells suited for carrying oxygen around the body.

Red blood cells have haemoglobin for carrying oxygen.

30. Give a reason why weaning is recommended to start at 4 months.

- **For the baby to get food nutrients which cannot be contained in breastmilk.**
- **For the baby to feed and get satisfied.**
- **For the baby to get iron**



31. Why is the temperature scale of a clinical thermometer ranging 34°C to 42°C.

The Normal human body temperature cannot fall below 34°C and cannot rise beyond 42°C.

The human body temperature range between 34°C to 42°C

32. What happens to light rays when they strike a concave lens?

A concave lens makes light rays to diverge after striking it.

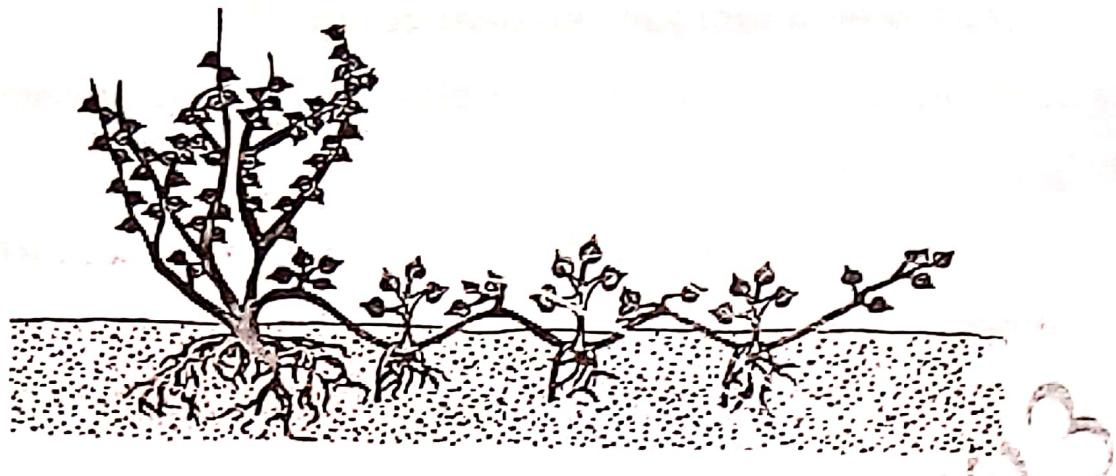
The light rays spread after striking the mirror

33. How are tadpoles and fish similar in terms of breathing?

Both use gills for breathing

The diagram below shows a method of plant propagation.

Use it to answer questions 34 and 35.



34. Name the method of plant propagation shown in the diagram above.

Layering.

35. Give one example of a crop which can be propagated using the above method.

- **Vanilla**
- **Pumpkins**
- **Honey suckle**
- **Sugar cane**
- **Cucumber**
- **Box wool**
- **Climbing rose flower**
- **Jasmine berries**
- **Water melon**

36. Apart from releasing ova, give one other way in which the ovaries are important in the female reproductive system.

Ovaries produce reproductive hormones called oestrogen/progesterone.

Produce hormones / reproductive hormones / store ova/eggcells

37. What form of energy is produced by water in hot springs?

Heat energy / Sound energy / Geothermal energy.

38. What is the danger of having too much plaque on the teeth?

- It leads to teeth decay / attracts germs
- It leads to cavities in the teeth
- It leads to bad smell in the mouth.

39. Mention any one condition which can lead to sickness at home.

- Poor feeding
- Poor sanitation/serving food in dirty containers
- Poor personal hygiene
- Drug abuse
- Sharing houses with domestic animals/Livestock
- Not sleeping in a mosquito net
- Poor life health style e.g over eating, smoking etc
- Sharing of clothes / beddings

40. Give a reason why vitamins are not digested in the human body?

Vitamins are already soluble food substances.

Reject Vitamins get digested directed to the body

SECTION B: 60 MARKS

41.(a) Name any one major layer of the skin.

Dermis / Epidermis.

(b) State the manufacture function of the skin.

The skin manufactures vitamin D with help of Ultra-violet rays from the sun.

The skin helps to make vitamin D

The skin makes vitamin D with the help of the sunshine

(c) Why does the hair on the human skin stand upright during cold weather?

To trap a layer of moisture/air which helps to insulate the body against heat loss.

(d) How does smearing the skin with jelly keep it safe?

The jelly keeps the skin moist, moist and soft to prevent it from cracking.

Trap heat around

42.(a) Give any two examples of Renewable resources in the environment.

(i) Animals.

(ii) Plants//Water//Wind//Air//Soil/Land/Sunshine

Reject sun because its an energy resource

(b) Which natural process allows living renewable resources to maintain their existence in the environment.

Reproduction

(c) How can water as a renewable resource be maintained in the environment?

Planting trees

Proper irrigation scheme

Agro forestry

Avoid swamp drainage

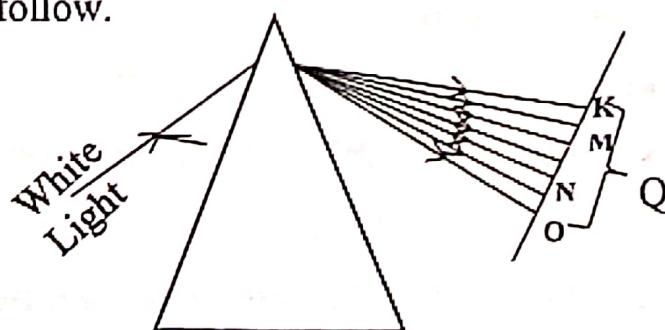
Fencing water sources

Using water sparingly

Protect water sources

Avoid silting

43. The diagram below shows a triangular glass prism. Study and use it to answer questions that follow.



(a) Name the colours marked N and M.

(i) N - Indigo

(ii) M - Orange

(b) Which object is represented by letter Q on the diagram?

Spectrum

Reject Rainbow

(c) Why is there a difference in bending as light goes through the glass prism?

Different light rays have different refractive index.



44.(a) Apart from testing blood for HIV, write down two other health care services which are provided through maternal and child health

- I. Immunization against tetanus.**
- II. Treatment of infections//Guidance and counseling.**
- III. Health education on**
 - i. Nutrition
 - ii. Personal hygiene
 - iii. Physical exercise
 - iv. Appropriate dressing
- IV. UV-scanning**
- V. Regular breast feeding**

(b) In which way is each of the following elements of PHC important in the community?

- (i) **Immunization:**
 - a. Prevents childhood immunizable diseases
 - b. Reduces infant death rate.
 - c. Boost childs body immunity
- (ii) **Family Planning:**
 - a. Controls over population in families

- b. Promotes family development.**
- c. Improves standards of living**
- d. Allows Education of family members.**
- e. Preventing exploitation of resources**
- f. Controls frequent births**
- g. Reduces on martenal anaemia**
- h. Reduces on maternal mortality rate**
- i. Having manageable number of children**

45.(a) Name the physical changes which occur when:

(i) Steam changes directly to ice: Deposition.

(ii) Ice changes to water: Melting.

(b) How does heat affect the following substances:

(i) Metals

- Rises their temperature.
- Causes melting
- Changes colours
- Causes change in shape.
- Expands metals
- Increase in size of metals
- Weakens metals

(ii) Water

- Raises temperature.
- Causes evaporation.
- Causes boiling.
- Reduces the volume
- Changes the state
- Makes water molecules mobile

46.(a) Give one way in which weeds affect crop growth in the garden.

- Compete for sunlight
- Compete Moisture
- Compete Air
- Compete Space
- Hide pests.
- Compete Plant nutrients
- Lowers the yield of crops

(b) State two ways in which mulching controls growth of weeds in the garden.

- (i) The mulches block sunlight from reaching the weeds
- (ii) Mulches suppresses the weeds

(c) State one advantage of weeds to farmers.

- The farmer uses weeds as mulches.
- Some use them as vegetables.
- Some rot to make manure.
- Some are used as herbal medicine.
- Some are used for feeding animals.
- Some are used for thatching houses.
- Some are used to make tea leaves
- Some used as flavours in foods
- Control soil erosion
- Some are used to squeeze banana juice

47.(a) Write down two examples of non-flowering plants.

i. Ferns/Conifers , pine, cedar

ii. Mosses/ Liverworts.

(b) State the similarity and difference between the plants in (a) above and most fungi.

(i) Similarity Almost all reproduce using spores.

(ii) Difference The above non-flowering plants carry out photosynthesis whereas fungi feed on decayed materials. Non flowering plants make their own food while fungi feed saprophytically

48. Match the crop growing practice in list A to their importance in list B.

List A

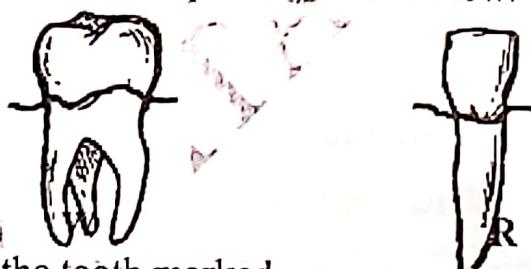
Gap filling
Pruning
Crop rotation
Mulching

List B

Breaks the lifecycle of pests.
Ensures target plant population
Retains moisture in the soil
Reduces plant weight in fruit trees.

- | | | | |
|---------------------|----------|-------------------------------------|-------------------------------|
| (i) Gap filling | : | Ensures target plant population | |
| (ii) Pruning | : | Reduces plant weight in fruit trees | |
| (iii) Crop rotation | : | Breaks life cycle of pests | |
| (i) | Mulching | : | Retains moisture in the soil. |

49. The diagram below shows two different types of human teeth. Study and use it to answer questions that follow.



(a) Name the tooth marked

(i) W : **Molar tooth**

(ii) R : **Incisor tooth**

(b) State the function of tooth R

• **Tooth R is used for biting or cutting food.**

(c) How is tooth W suited for its function?

• **By having a broad flattened top over which help grinding of food takes place.**



50.(a) What is brooding?

Brooding is a process of giving care to chicks in order to be raised.

Brooding is a special care to chicks

(b) Name the type of brooding in which the mother bird provides care to the chicks.

- **Natural brooding.**

(c) Write down any two advantages of the type of brooding named in (a) above.

(i) The mother bird protects chicks against predators.

(ii) The mother birds help her chicks to find food.

(iii) Less attention labour

(iv) cheap

51.(a) State one characteristic which is common to all invertebrates.

All invertebrates don't have back bones.

(b) To which group of Invertebrates does each of the following animals belong?

(i) Tape worm : **Worms.**

(ii) Cockroach : **Arthropods.**

Reject insects

(c) State the way in which suckers are useful to a tape worm.

For attachment / Provide extra attachment

Reject used for feeding

52.(a) Name the clouds which bring rainfall.

Nimbus Clouds

(b) Write two physical processes which occur during rainfall formation.

(i) **Evaporation / Transpiration.**

(ii) **Condensation. Reject cooling**

(c) How does rainfall support plant growth in the environment?

Through the water cycle.

Softens soil

Waters plants to support growth

Dissolves nutrients in the soil to allow plant absorb

Provides water for photosynthesis

53. State the method that can be used to separate:

(i) Iron fillings from saw dust: **Using a magnet**

(ii) Alcohol and water: **Fractional distillation/Distillation**

(b) Apart from sorting, state one other step taken when cleaning clothes at home.

- **Soaking** **Reject Sorking**
- **Washing**
- **Rinsing**
- **Wringing**
- **Sun drying**
- **Ironing**

(c) State one way in which sorting is important when cleaning clothes.

- **Prevents staining of some clothes with dye.**
- **Makes washing easy.**
- **Prevents mixing of colours of clothes**
- **Prevents coloured clothes to stain other clothes**
- **Helps to separate dirtiest clothes from other clothes.**

54.(a) State any two ways in which people mis-use drugs in their families.

- **Taking wrong dosage**
- **Sharing drugs meant for one person**
- **Taking drugs when not sick**
- **Using a drug for a non-intended purpose**
- **Taking drugs in form of pain killers**

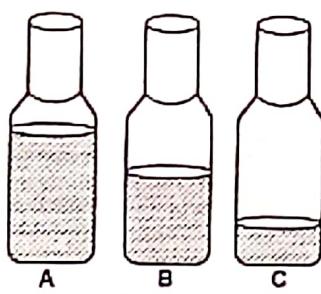
- Taking overdose
- Taking underdose
- Self medication

(b) Give two reasons why mothers are advised not to smoke during pregnancy.

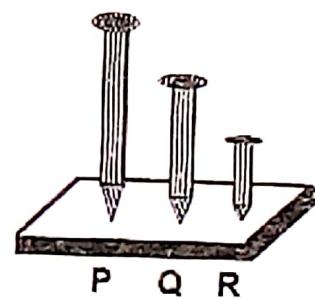
- To prevent giving birth to underweight babies.
- To prevent pre-mature births
- To prevent weakening of the immune system.
- To prevent poor mental development of the unborn baby
- To prevent still births.

55. The diagram below shows instruments which can be used to produce sound. Study and use it to answer questions that follow.

Set 1



Set 2



(a) How do the instruments in set 1 and set 2 produce sound?

- Set 1: Vibration of air blown inside the bottles
- Set 2: Vibration of the nails after being hit.

Vibration of surfaces when hit / hammered

(b) How is bottle A and nail R similar in the sound they produce?

They both produce sound of the highest pitch.

High pitch of sound is produced

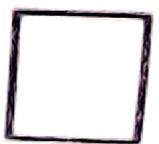
(c) What causes the difference in sound produced by the bottles in set

The difference in the amount/size of space left in the bottles.

Due to difference in vibrating surface area.

Vibrating surface area

Reject surface area



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