KINGS SCHOOLS-KABOWA

P.4 SCIENCE TOPICAL QUESTIONS

Week 1st – 6th April 2020

Name: ……..... Stream ……

PLANT LIFE

1. What name is given to plants that bear flowers?

   _____

2. Define the term non flowering plants.

   _____

3. How do plants like beans and cow peas reproduce?

   _____

4. How do conifers reproduce?

   _____

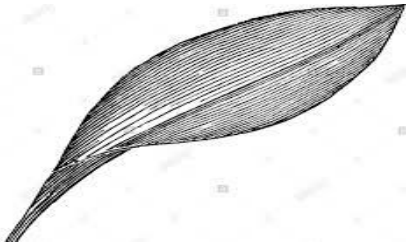
5. State one similarity between maize and mosses.

   _____

6. What is leaf venation?

   _____

7. Name the type of leaf venation drawn below.



_____

8. Mention any one example of a compound leaf.

   _____

9. Explain the main function of leaves on a plant.

   _____

10. How are the foliage leaves useful on an onion?

    _____

11. What is photosynthesis?

    _____

12. How do plants reduce the amount of carbon dioxide in the atmosphere?

_____

13. Which parts of a flower make up a pistil?

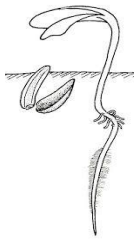
_____

14. In the space provided, draw and name the female part of a flower.

15. How are the cotyledons on a germinating seed useful to it?

_____

16. What process in plants is shown by the following diagram?



_____

17. Define the term pollination.

_____

18. What is difference between root tubers and stem tubers?

_____

19. How is a root cap useful on roots?

_____

20. Give an example of an annual crop.

_____

Section B

21. Match the crops to their diseases.

Crop	**Diseases**
Cassava	Leaf spot
Tomato	Cassava mosaic
Bananas	Tomato blight
Cotton	Panama

Cassava _____

Tomato _____

Bananas _____

Cotton _____

22. (a) List down the two types of germination.

(i) _____

(ii) _____

(b) State the role of each of the following during germination.

(i) oxygen _____

(ii) moisture _____

23. Give an example of each of the following crops.

(i) Leguminous _____

(ii) Cereals _____

(iii) Leafy vegetables _____

(iv) Stem tuber _____

24. (a) How is a moth able to pollinate flowers at night?

_____

(b) Besides a moth, name any other insect pollinator.

_____

(c) How are bright petals useful during pollination?

_____

(a) Why do bees commonly visit flowers?

_____

25. (a) Name the two plant systems you know.

(i) _____

(ii) _____

(b) In the space given, draw a diagram showing prop roots.

(c) How are the roots drawn above important to a maize plant.

_____

26. (a) What is transplanting?

_____

(b) Why is transplanting done in the evenings?

_____

(c) Draw and name a garden tool useful for transplanting.

(d) Why are some seeds first planted in a nursery bed?

_____

27. (a) What are weeds

_____

(b) Give two examples of weeds common in the garden.

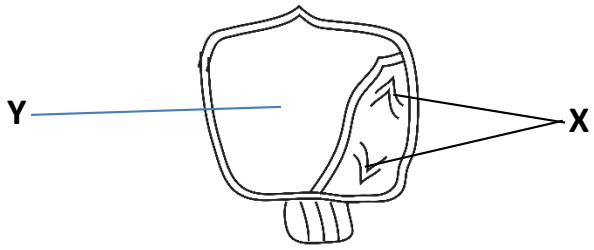
(i) _____

(ii) _____

(c) Give one way of removing weeds from the garden.

_____

28. Below is a diagram showing a maize seed. Use it to answer the questions that follow.



(a) What collective name is given to the parts marked **X**?

_____

(b) Of what use if part **Y** to the seed drawn above.

_____

END

KINGS SCHOOLS-KABOWA

P.4 TOPICAL SCIENCE QUESTIONS

Week 2 (7th – 13th April 2020)

Name: ..... stream .....

CROP GROWING

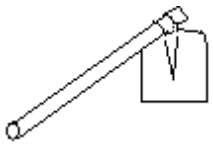
1. Give one economic value of crops to farmers.

   _____

2. What are perennial crops?

   _____

3. Besides digging, give any other value of the garden tool shown in the diagram.



   _____

4. Name the garden tool used for turning manure.

   _____

5. Why are beans and peas grouped under leguminous crops?

   _____

6. Give an example of a fruit vegetable.

   _____

7. What type of roots do cereals possess?

   _____

8. Briefly explain the term seedling.

   _____

9. Why do some plants with weak stems climb others?

   _____

10. Define the term seed viability.

    _____

11. State any one condition under which a seed may fail to germinate.

    _____

12. Give the importance of the structures (swellings) shown on the roots below.

_____

_____

13. What is broadcasting method of growing or planting seeds?

_____

14. Name one plant that can be pruned.

_____

15. In which way are traps useful to the crop farmers?

_____

16. State one quality of a good planting material.

_____

17. Name one disease that commonly affects the coffee plants in the community.

_____

18. Give one advantage of planting seeds using broadcasting method.

_____

19. Define the term "nursery bed"

_____

20. State one characteristic of monocotyledonous seeds.

_____

21. (a) What name is given to the groups of crops that grow and live for many seasons?

_____

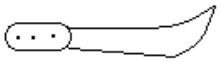
(b) Give two examples of such crops named above.

(i) _____

(ii) _____

(c) Suggest one way of harvesting the above crops named.

22. Match the garden tools to their functions.

(cutting down any big trees, harvesting rice, gathering rubbish, transplanting

23. (a) What is mulching?

_____

(b) State one source of mulches in our community.

_____

(c) Mention two advantages of mulching our garden.

(i) _____

(ii) _____

24. (a) Why is rusting of tools dangerous? Give two reasons.

(i) _____

(ii) _____

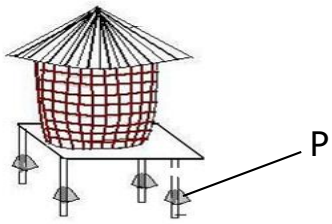
(b) State any one condition necessary for rusting to take place.

_____

(c) How is rusting similar to germination of seeds?

_____

25. The diagram below shows a traditional grain store.



(a) Identify the farm store above.

_____

(b) Name the part marked p above.

_____

(c) How is the named part above important on the farm structure?

_____

(d) List down one crop whose seeds can be kept in the farm structure.

_____

26. (a) Define the term pests.

_____

(b) Identify any two common insect pests in the garden.

(i) _____

(ii) _____

(c) Give one natural method of controlling the above named pests.

_____

27. State the method of harvesting the following crops.

(a) Bananas _____

(b) Cassava _____

(c) Coffee _____

(d) Maize _____

28. Draw a diagram to show row planting method.

(a) Give one example of a plant grown using the above method.

_____

(b) Besides the method named, identify any other method of planting seeds.

_____

(c) Give one advantage of using the method shown in the diagram.

_____

KINGS SCHOOLS-KABOWA

P.4 TOPICAL QUESTIONS

Week 3 (14th – 21st April 2020)

Name: ……. stream …….

WEATHER CHANGES AROUND US

1. Explain the term weather.

   _____

2. Name the type of weather when people commonly put on light clothes.

   _____

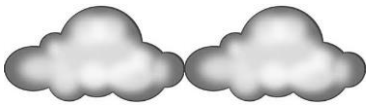
3. Which type of clouds resemble cotton piles.

   _____

4. In which basic units is rainfall measured?

   _____

5. Name the condition of weather shown in the diagram.



   _____

6. What type of rainfall is received around mountain hills?

   _____

7. Besides rainfall, give any other use of clouds to people.

   _____

8. Which type of clouds appear highest in the sky?

   _____

9. Who are meteorologists?

   _____

10. Windy is to wind blow as _____ is to sunshine

11. What is the source of heat in the water cycle?

    _____

12. Define the term temperature.

    _____

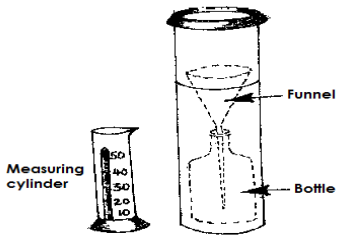
13. What term is given to the average weather condition of a place?

    _____

14. In which units is temperature measured?

_____

15. How is the weather instrument below useful to farmers?



_____

16. What is the suitable place for the above drawn weather instrument?

_____

17. Give a reason to your answer in No. 16.

_____

18. Of what use is a funnel on a measuring cylinder?

_____

19. Give one danger of clouds in the environment.

_____

20. How is sunshine helpful during photosynthesis?

_____

21. Match the following correctly

Barometer	temperature
Thermometer	speed of wind
Wind vane	air pressure
Anemometer	direction of wind

Barometer _____

Thermometer _____

Wind vane _____

Anemometer _____

22. (a) Why is the Stevenson screen painted with white colours?

_____

(b) List down any three delicate weather instruments that can be kept in a Stevenson screen.

(i) _____

(ii) _____

(iii) _____

23. Mention the four weather conditions.

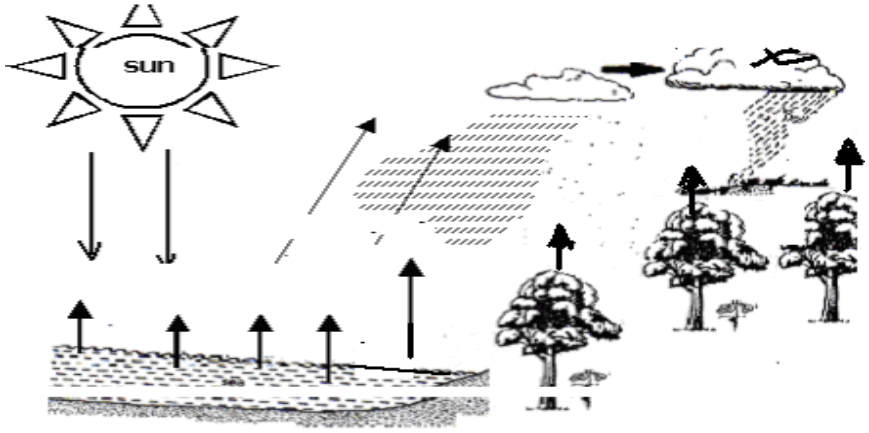
(i) _____

(ii) _____

(iii) _____

(iv) _____

24. The diagram below shows the water cycle.



(a) Identify the two processes involved in rainfall formation.

(i) _____

(ii) _____

(b) What is the role of the sun during the rainfall formation?

_____

(c) Suggest one way of harvesting rain water.

_____

25. (a) What is the main natural source of water?

_____

(b) List down two artificial sources of water.

(i) _____

(ii) _____

(c) Give one way in which water can be contaminated.

_____

26. (a) What do we call the process by which

(i) vapour changes into a liquid

_____

(ii) liquid changes into vapour

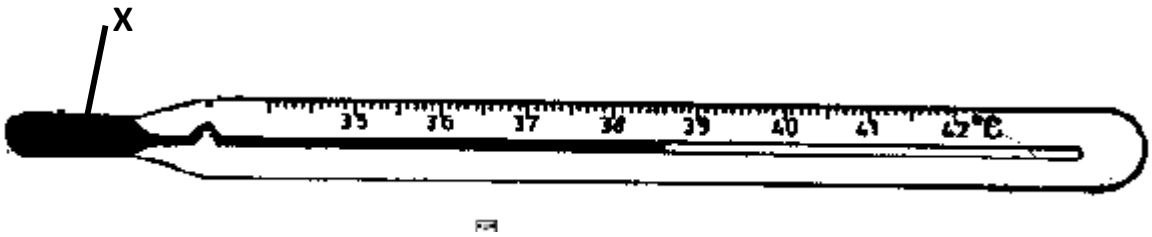
_____

(b) Name two common diseases spread during a wet season.

(i) _____

(ii) _____

27. The diagram below shows an instrument. Use it to answer questions that follow.



(a) Identify the above instrument.

_____

(b) How is the kink useful to the named instrument?

_____

(c) Why is liquid **X** commonly used in such an instrument?

_____

(d) What is the normal human body temperature on the Celsius scale?

_____

28. Give three importance of keeping daily records of weather.

(i) _____

(ii) _____

(iii) _____

END

GROWING CROPS

Crops

A crop is a plant grown for a purpose.

Types of crops

1. Cereals
2. Legumes
3. Root crops
4. Fruit crops
5. Vegetables

Cereals

Cereals are sometimes called grains or monocots.

Examples of cereals

- Maize
- Millet
- Sorghum
- Rice
- Wheat
- Barley

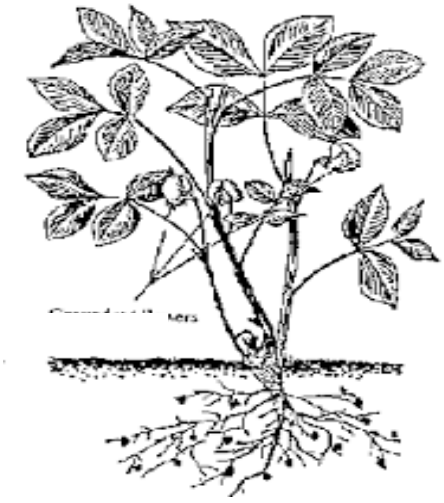
Leguminous crops (Legumes)

- They have nodules on their roots.
- They have seeds in pods.

Examples of legumes

- Beans
- Peas
- Groundnuts
- Soya beans

Root structure of a leguminous crop



Root nodules: -

- Swellings found on roots of leguminous plants.
- They keep nitrogen fixing bacteria.

NB: Nitrogen fixing bacteria trap nitrogen from air and change in to nitrates as plant food.

These are crops grown purposely for the fruits.

Fruit crops

- Mangoes
- Apples
- Pumpkins
- Pawpaw
- Pine apples.

Root crops (Rood tubers)

- Sweet potatoes
- Cassava
- Carrots

These are crops which store their food in roots

Vegetables

- Cabbage
- Spinach
- Lettuce
- Dodo
- Nakati
- Bbuga

Types of vegetables

- Leaf vegetables e.g cabbages , spinach etc
- Root vegetables e.g carrots
- Fruity vegetables e.g tomatoes , eggs plants etc.

Groups of crops

1. Annual crops
2. Perennial crops

Annual crops:

These crops grow, produce and die within a year.

Examples:

- Beans Rice etc
- Maize
- Soya beans
- Millet
- Sorghum

Perennial crops

These crops grow, produce and die in more than a year.

Examples:-

- Tea
- Coffee
- Cocoa
- Mango
- Banana
- Cotton

Garden tools and their uses

Hoe	• Digging • Planting • Weeding • Harvesting
Spade	• Mixing manure • Lifting soil. • For loading and offloading manure
Rake	• Leveling soil • Collecting weeds.
Wheel barrow	• Carrying soil • Carrying manure • Carrying harvests
Slasher	• Cutting grass • Cutting weeds
Axe	• Cutting big trees • Chopping wood
Panga	• Cutting small branches • Cutting trees. • Harvesting sugar cane
Forked hoe	• Digging hard ground • Digging stony ground
Watering can	• Watering crops • Watering seedling
Trowel	• Transplanting • Carrying seedlings
Garden fork	• Mixing manure
Pick axe	• Digging in rocky ground. • Digging in stony soils.
Secateur	• Pruning crops
Pruner	• Pruning crops
Hand fork	• Light weeding • Removing seedling from soil.
Sprayer	• Spraying crops.
Knives	• Harvesting • Pruning • peeling
Tape measure	• Spacing crops in the garden.
Sickle	• Harvesting cereals

Care for garden tools

- Washing after use and drying them.
- Keep the tools in dry place.
- Painting some of them.
- By oiling them.

Crop growing practices.

1. **Land preparation**
   It is done during dry season to:-
   - Prevent the weeds from germinating again after digging and ploughing.
   - Avoid the soil from sticking on to the hoe or plough.

Ways of preparing land

- Digging
- Ploughing
- Slashing / clearing
- Cutting big trees
- Harrowing
- De – trashing. (Removing tree stumps)

Garden tool / implements used in preparing land

- Hoes
- Ox ploughs
- Tractors
- Slashers
- Rakes
- Panga
- Axe

Importance of preparing land

1. To soften the soil.
2. Digging and ploughing allows water into the soil.
3. It makes planting easy.
4. Allows air in to the soil.
5. Cutting away big trees opens space for crops to get enough sunlight.
6. To remove weeds

2. **Selecting viable planting materials**
   (i) Examples of planting materials.
      1. Seeds
      2. Suckers
      3. Stem cuttings
      4. Rhizomes
      5. bulbs

   (ii) Qualities of good planting materials
      1. They should be mature
      2. They should not be damaged
      3. They should be free from pests.

4. They should be free from diseases.
5. They should not be too old.
6. They should be of the same variety.

(iii) Importance of selecting planting materials

1. It prevents wastage of land.
2. It ensures quality plants.
3. It prevents wastage of time.
4. It prevents wastage of labour.

Seed viability : is the ability of a seed to germinate

Planting and sowing

This is putting of planting materials in the soil to germinate.

NB: Planting is done during wet / rainy season.

Reasons for planting crops in wet season.

- There is enough water for seed germination.
- The soil is soft for easy growth of roots.

Methods of planting

1. Planting in rows
2. Broadcasting method.

Row planting

This is when planting materials are put in the soil in lines.

Advantages of row planting

- It makes weeding easy.
- It makes harvesting easy.
- It controls easy spread of pests and diseases.
- It avoids wastage of seeds and other planting materials.
- It allows proper spacing of crops.

Disadvantages of row planting

- It needs a lot of labour.
- It is time consuming.
- It requires large piece of land

Example of plants planted by row planting

- Maize Pineapple
- Potatoes.
- Cassava Beans

Broad casting method

This is the putting of seeds in the soil while scattering them.

Advantages of broadcasting methods

1. It saves time.
2. It does not need a lot of labour.
3. It does not waste nutrients in soil.

Disadvantages of broadcasting methods

1. It makes weeding difficult.
2. It makes harvesting difficult.
3. Pests and diseases can easily spread.
4. Competition for nutrients and sunlight

Nursery bed.

A nursery bed is a small garden where seedlings are grown before they are transplanted.

Transplanting

This is the transfer of seedlings from a nursery bed to the main garden.

NB:

- Trowel is the garden used during transplanting.
- Transplanting is best done in the evening.

Why transplanting is done in the evening

- It prevents wilting of the seedlings.
- There is little loss of water from the soil through evaporation.

Garden tool used for transplanting.

Examples of plants grown in a nursery bed.

1. Tomatoes
2. Onions
3. Coffee
4. Cabbbages
5. Passion fruits.
6. Cucumber
7. Watermelon
8. Pawpaw

Importance of a nursery bed

1. It gives a farmer time to prepare the main garden.
2. It protects seedlings from heavy rain drops.
3. It protects seedlings from strong sunshine.
4. It helps farmers to select healthy seedlings.
5. It helps water to sink deeply in to the soil.
6. **Advantages of early planting**

- Crops make full use of rainfall for the season.
- Cereals mature early therefore get good market.
- Crops grow fast enough and compete with weeds for light nutrients and water before they flow.

Gap filling

The planting of seeds or seedlings where they did not germinate in the garden.

Staking

Provision of extra support for plants with weak stems using sticks .

Caring for crops.

Ways in which farmers care for their crops in the garden

1. Thinning
2. Watering
3. Weeding
4. Manuring
5. Applying fertilizers.
6. Staking
7. Mulching
8. Providing shade.
9. Pruning

Weeding

This is removal of unwanted plants from the garden.

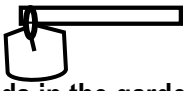
Examples of weeds

1. Spear grass.
2. Elephant grass.
3. Black jack
4. Star grass
5. Wandering Jew
6. Guinea grass
7. Thorn apple

Garden tools for weeding

1. Hand fork

2. Slasher

3. Hoe 

Dangers of weeds in the garden

1. They compete for light, water, nutrients and space with crops.
2. They encourage easy spread of pests.
3. They encourage easy spread of diseases.
4. They make harvesting difficult.

Ways of controlling weeds.

1. Slashing
2. Spraying / using herbicides.

3. Up rooting
4. Crop rotation
5. Mulching
6. Digging.

Advantages of weeding a garden

1. It reduces the competition for light, nutrients, water and space in the garden.
2. It makes harvesting easy.
3. It controls the easy spread of diseases.
4. It prevents the easy spread of crop pests.

Uses of weeds to people.

1. Some weeds are used as herbal medicine.
2. Some weeds are used as mulches.
3. Some weeds are used as animal feeds e.g. elephant grass for cattle.

Manuring

It is the putting of manure in the soil to make it more fertile.

Sources of manure

- Animal dung and urine
- Plant remains
- Green plants.

Types of manure (natural fertilizers)

1. Compost manure: It is got from plant materials and animal wastes.
2. Green manure: It is got from ploughed, buried and rotten green materials like legumes.
3. Farm yard manure (F.Y.M): It is got from farm animal wastes, urine and decayed material.

Mulching

Mulching is the covering of top soil with dry plant materials.

NB: Mulches are plant materials used for mulching.

Examples of mulches

- Elephant grass
- Coffee husks
- Banana leaves
- Chopped stems of bananas.
- Spear grass.

Advantages of mulching

- It keeps water (moisture) in the soil.
- It controls soil erosion.
- It makes the soil fertile.
- It controls the rapid growth of weeds.

Disadvantages of mulching

- Mulching keeps pests.
- Some mulches can grow into weeds.
- Mulching is a fire hazard
- It is tiresome.

Pruning

The cutting of excess leaves or branches from a plant

Advantages of pruning

- It reduces the easy spread of crop diseases.
- It reduces competition for sunlight, water, nutrients and air.
- It improves on crop yields.

Garden tool for pruning

Thinning

It is the removal of excess plants in the garden / nursery bed.

Advantages of thinning

- It reduces competition for crop nutrients.
- It reduces the easy spread of pests.
- It reduces the spread of crop diseases.
- It improves on crop yields.
- It reduce on the weight of a plant

PESTS

A pest is an animal that destroys crops.

Examples of crop pests.

- Army worms
- Birds
- Rats
- Termites
- Maize stalk borer
- Locusts
- Squirrels
- Aphids
- Cotton stainer
- Snails
- Banana weevil
- Maize weevil

Dangers of crop pests.

- They weaken plants.
- They lead to low produce.
- They lead to poor growth of crops.
- They destroy crops.

Ways of controlling crop pests.

- Spraying pesticides.
- Using scare crows
- By crop rotation.
- Planting pest free materials.
- Regular weeding.
- Up rooting and burning infected crops
- Proper spacing.
- Early planting.
- By trapping
- By fencing
- By poisoning
- Early harvesting

Crop diseases

Some crop diseases.

Disease	**Plant attacked**
Cassava mosaic Leaf rot	Cassava plant
Tomato blight	Tomatoes
Ground nut Rosette	Groundnuts
Leaf spot Maize streak	Maize
Powderly mildew	Mangoes, pawpaws, turnips
Smuts	Sugarcane, maize, sorghum
Rust	Cereals (millet, maize, barley, wheat)
Panama	Banana

Ways of controlling crop diseases

- By crop rotation.
- Spraying chemicals.
- Uprooting and burning of infected crops.
- Planting healthy materials.
- Proper spacing
- Early planting.

Crop rotation

It is the growing of different types of crops on the same piece of land seasonally.

Advantages of crop rotation

- Keeps the soil fertile.
- Controls soil erosion.
- Controls crop pests.
- Controls crop diseases.

NB: Legumes are alternated with non – leguminous plants.

Why: They make soil more fertile since legumes add nutrients to the soil.

1. Shallow rooters are alternated with deep rooters.
   Why? This balances the use of nutrients from soil at different levels.
   Watering: Is the supply of water to crops

Uses of water in soil

- It makes the soil soft for roots to grow easily.
- It is used for seed germination.
- Plants use water to make food.
- It softens the ground for easy weeding.
- Cools the plants during transpiration.

Harvesting

This is collecting of ready (mature) crops from the garden.

- It is done during the dry season to dry harvests.

Some garden tools for harvesting

Tool	Purpose
Sickle	Harvesting cereal crops
Hoe	Harvesting root crops.
Panga	Harvesting sugarcane, banana.

Methods of harvesting

1. Hand picking (e.g coffee, oranges etc)
2. Cutting stems (e.g. sugarcane, banana)
3. Up rooting (e.g. groundnuts, cassava)
4. Digging (e.g. potatoes).

Storing of food

Keeping of food safely for future use.

Reasons why farmers store food.

1. To be eaten in dry season.
2. For planting in next season.
3. To be sold when market prices are better.

Places where food can be stored

1. In granaries
2. Silos
3. In refrigerators / freezers

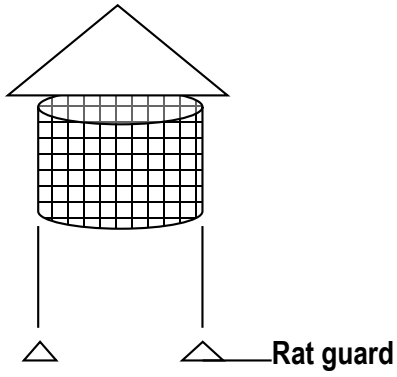
Types of stores

- Traditional stores eg granaries
- Modern stores eg. silos

Qualities of a good store

- It should be well ventilated.
- The roof should be leak proof.
- It should have rat guards.
- It should be clean and dry.

A diagram showing a granary.



1. Rat guard prevents rats from entering the store.
2. Leak proof roof prevents damping and rotting of the seeds.

Some storage pests

- Rats
- Maize weevil
- Bean weevil
- A storage beetle.
- Harvest mite

Food preservation

Is the preventing food from going bad.

Methods of preserving food (modern / local)

Method	Example of food
Sun drying	Cassava, sweet potatoes, maize, Irish potatoes, Onions, millet, rice, sun flower, wheat, beans, soya beans, peas, mushroom
Freezing	Oranges, mangoes, avocados, sweet banana, Irish potatoes, cucumber, cabbage, water melon.
Tinning / canning	Beans, Tomatoes
Salting	Meat / fish
Smoking	Meat + fish
Refrigeration	All fruits / vegetation / meat / fish
Roasting	Meat / fish

Food path

Food path are different stages in food production.

Type of food path

- Village food path
- Town footpath
- Earning food path

Village food path: This is the food path where farmers grow crops for home consumption

Stages of village food path

- Land preparation (clearing the land)
- Planting
- Caring for crops
- Harvesting

Town food path : This is the food path where farmers good or produce food for sale.

Stages in town food path.

- Clearing the land
- Planting
- Caring for crops
- Harvesting
- Drying seeds

- Marketing
- Buying and cooking food
- Eating

Earning food path

This is the food path where people who work and get salary use it to buy food in markets

Stages of earning food path

- Getting salary
- Budgeting
- Buying food

Blocks of food path

Blocks of food path are problems faced in food production and may lead to little yield when harvested.

Examples of blocks of food path

- Crop pests
- Crops diseases
- Poor farming methods
- Poor health (elnino , drought)
- Earth quake

---------- Please Turnover ----------

TOPICAL QUESTIONS

1. What do we call plants with root nodules?
2. Mention one example of a root tuber.
3. In the space below draw a garden tool for transplanting.
4. Give one example of a crop grown in a nursery bed.
5. Which season is best for harvesting?
6. Define crop rotation.
7. Apart from broadcasting methods of planting, name the other method.
8. Suggest one use of weed to people.
9. Write F.Y.M in full.
10. Give one disease that attacks tomatoes in the garden.
11. (a) What is harvesting?
    (b) Mention two tools for harvesting.
    (c) Suggest one method of harvesting.

12. (i) Give the meaning of the word pest!
    (ii) Name two storage pests you know.
    (iii) State one danger of pests to crops.
13. (a) Write two qualities of good planting materials.
    (b) Mention one example of planting materials.
    (c) Suggest one importance of early planting.

4a(a) Give two ways of preserving food.
    (b) Why are rat guards put on the granary.
    (c) List one place where food can be stored.

5a(a) Which term is used for covering of top soil with dry plant materials?
    (b) Write three examples of mulches.

16. Name the garden tools below:-

(i) 

(ii)