



Know the Terms

- **Agriculture Practices** : Cultivation of crops involves several activities undertaken by farmers over a period of time. These activities or tasks are referred to as agricultural practices.
 - **Agriculture** : It is the applied branch of biology which involves the practice of cultivating crops as well as rearing animals.
 - **Ploughing or Tilling** : The process of loosening and turning the soil is ploughing or tilling.
 - **Sowing** : It is the process of scattering or putting seeds into the soil, so as to grow a new crop plant.
 - **Crop rotation** : It is a practice in which different types of crops, especially leguminous or non-leguminous crops are grown alternately in the same field.
 - **Mixed cropping** : It is also a method of increasing soil fertility by growing two or more crops together in the same field.
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Objective Type Questions

(1 Mark each)

I. Multiple choice questions

1. Which is not a Kharif crop?
a. Paddy b. Gram c. Maize d. Soya bean
2. Sometimes, manure is added to the soil before tilling because.
a. Less manure is used b. It helps in proper mixing of manure with soil
c. It saves labour and time d. None of above
3. Process of separating grains seeds from the chaff is called.
a. Threshing b. Harvesting c. Weeding d. Sowing
4. Which of the following is not a traditional method of irrigation?
a. Moat b. Chain pump c. Drip system d. Rahat
5. An agricultural implement used since ancient times for tilling the soil, adding fertilizers, removing weeds etc. is.
a. Hoe b. Combine c. Plough d. Seed drill
6. The use of manure (which is not correct)
a. Enhances the water-holding capacity of the soil



- b. Improves soil texture.
- c. Increases the number of friendly microbes
- d. Also becomes a source of water pollution

1. b	2. b	3. a	4. c	5. c	6. d
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II. Multiple choice questions

- The process of watering plants is called
 - Sowing
 - maturing
 - Tilling
 - Irrigation
- Weeds are the
 - Main crop plants
 - Insect and pests
 - Unwanted plants growing along the crops
 - Chemical substances
- Combines are used for
 - sowing of seeds
 - Harvesting the crops
 - Threshing
 - Both b and c
- Separating grains from chaff is called
 - Winnowing
 - Weeding
 - Tilling
 - Harvesting
- Weedicides are used to destroy.
 - Insects
 - Weeds
 - Pests
 - None of these
- Rabi crops are sown in
 - March, April
 - May, June
 - October, November
 - Any time
- Wheat and gram belong to
 - Rabi crops
 - Kharif crops
 - Both of these
 - None of these
- Examples of kharif crops are
 - Wheat and maize
 - Gram and maize
 - Paddy and maize
 - All of these
- 2, 4-D is a
 - Pesticide
 - Insecticide
 - Fungicide
 - Weedicide
- Seed drill is used to
 - Sow the seeds
 - Remove the weeds
 - Remove the pest
 - Mix manure in the soil.

1. d	2. c	3. d	4. a	5. b	6. c	7. a	8. c	9. d	10. a
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I. Fill in the blanks

- _____ and _____ are the examples of Rabi crops.
- The ploughed field may have big pieces of soil called _____.
- The main part of the plough is a long log of wood, which is called a _____.
- Now-a-days ploughing is done by _____.
- Seed drill sows the seeds uniformly at proper _____ and _____.
- The decomposed matter is used as _____.
- _____ are the chemical substances that are rich in the particular nutrients.
- _____ is a weedicide.
- _____ and _____ are storage of grains in large scale.
- Food is also obtained from reared animals, called _____.

1. Wheat, gram	2. crumbs	3. plough shaft
4. tractor driven cultivator	5. distance, depth	6. organic manure
7. fertilizers	8. 2, 4-D	9. Silos, granaries
10. animal husbandry		

II. Fill in the blanks

- Seed drill is used for _____ of seeds.
- Tilling of the soil is also called _____.
- The most common weedicide is _____.
- The economical methods of irrigation are _____ and _____.
- A common pesticide is _____.
- Manures _____ the water holding capacity of the soil.
- Millet (Bajra) etc. Belongs to the _____ crops.
- The process of formation of food by green plants is called _____.

1. Sowing	2. Loosening	3. 2, 4-D	4. Drip irrigation, sprinkler system of irrigation
5. BHC	6. Increases	7. Kharif	8. Photosynthesis

I. Match the following

I. Column A		Column B	
(i)	Urea	(a)	Sowing of seeds
(ii)	Combine	(b)	Storage
(iii)	Silos	(c)	Harvesting and threshing
(iv)	Seed drill	(d)	Fertiliser
(v)	Irrigation	(e)	Preparation of soil
(vi)	Tilling	(f)	Sprinkler system

(i). (d)	(ii). (c)	(iii). (b)	(iv). (a)	(v). (f)	(vi). (e)
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II. Column A		Column B	
(i)	A pesticide	(a)	Irrigation
(ii)	A weedicide	(b)	Seed drill
(iii)	Rahat	(c)	Hoe
(iv)	Sowing of seeds	(d)	BHC
(v)	Loosening the soil	(e)	2, 4-D

(i). (d)	(ii). (e)	(iii). (a)	(iv). (b)	(v). (c)
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II. Match the following

Column I	Column II
1. Granaries	i. NPK
2. Kharif crop	ii. Dhekli
3. Traditional Method	iii. Silos
4. Fertilizers	iv. Paddy and maize

1. iii	2. iv	3. ii	4. i
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I. 1. True or False

1. Manure consists of the organic matter.
2. Manures and fertilizers are used to add nutrients in the soil.
3. Combine is used for sowing seeds.
4. The first agricultural task is sowing of seeds.
5. Drip irrigation system is an economical method of irrigation.

1. True	2. True	3. False	4. False	5. True
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2. True or False

1. Using good quality seed is the only criterion to get high yield.
2. Growing different crops in different seasons in the same field will deplete the soil of nutrients.
3. All crop plants are sown as seeds in the field.
4. Cells of root nodules of leguminous plant fix nitrogen.
5. Freshly harvested grains must be dried before storing.

[NCERT Exemplar]

1. False	2. False	3. False	4. False	5. True
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II. True or False

1. Manures consist of the organic matter.
2. Manure and fertilisers are used to add nutrients in the soil.
3. Seed drill is used to remove grains from chaff.
4. Paddy and maize belong to kharif crops.
5. Fertilisers are the chemical substances.
6. Rahat is the device used to plough fields.
7. 2, 4-D is a common weedicide.

1. True	2. True	3. False	4. True	5. True	6. False	7. True
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Quiz Time

1. When plants of the same kind are grown and cultivated at one place on a large scale.
What is it called?
2. Why can paddy not be grown in the winter season?
3. Which months are most appropriate for sowing rabi crops?
4. What are the most common crops belonging to kharif crops?
5. Which process is used to separate grains from chaff?
6. Name two rabi crops.
7. Name the tool which is used for removing weeds and for loosening the soil.
8. When some gram seeds are put in a beaker half filled with water, after some time some seeds started to float on top. Why?
9. Sometimes little plants are kept in bags in nurseries. Later they are transplanted to the main field. Why is it done so?
10. What are the modern methods of irrigation which prevent the loss of water?
11. Why do farmers add manure to their fields?
12. Do weedicides have any effect on the person handling the weedicides spray?
13. Some farmers put dried leaves of neem in an iron drum containing wheat. Why?
14. Why is fish good for health?
15. Name three special festivals associated with the harvest season.

Answers.

1. Crop
2. Paddy requires a lot of water. Therefore, it is grown only in the rainy season.
3. October to March
4. Paddy and maize
5. Winnowing
6. (i) Wheat (ii) Gram
7. Hoe
8. Damaged seeds become hollow and become lighter. So, they float on water.
9. This is done for two reasons;
(i) to grow each plant at appropriate distance from another plant



- (ii) to remove the plants which are not suitable to raise or to avoid overcrowding
10. (i) Sprinkler system
(ii) Drip system
11. Continuous growing of crops makes the soil poorer in certain nutrients. To replenish them, farmers add manure to the soil.
12. The person handling spraying of weedicides, may inhale weedicides. That may cause respiratory diseases like asthma and other health hazards.
13. Dried neem leaves protect wheat grains from the pests and microorganisms.
14. Fish provides cod liver oil which is rich in vitamin D.
15. Baisakhi, Pongal and Bihu
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NCERT Corner

Intext Question

1. Boojho wants to know where we use these tools.

We use tools like khurpi, sickle, shovel, plough etc. in agricultural activities.

2. Boojho wants to know, since we all need food, how can we provide food to a large number of people in our country?

Food will have to be produced on a large scale in order to provide food for a large population, regular production, proper management and distribution of food are necessary.

3. Boojho wants to know why paddy cannot be grown in the summer season.

Paddy requires a lot of water. So it is grown only in the rainy season.

4. Paheli asked Boojho if he knew the tools used for sowing.

Khurpi, plough and seed drill are used for sowing.

5. One day Paheli saw her mother put some gram seeds in a vessel and pour some water on them. After a few minutes some seeds started to float on the top. She wondered why some seeds floated on water?

Damaged seeds become hollow and are thus lighter which makes them float.



6. **Boojho saw one nursery near his school. He found that little plants were kept in small bags. He wants to know, Why?**

Seeds of a few plants such as paddy are first grown in nursery. When small plantlets are formed they are transplanted in the field manually. Some forest plants and flowering plants are also grown in the nursery.

7. **Boojho went to a farm and saw a healthy crop growing there. Whereas in the neighbouring farm the plants were weak. He asked Paheli why do some plants grow better than others ?**

This is because of insufficient manuring and care.

8. **Boojho told the farmer that there were other plants growing along with wheat. He wanted to know if they had been purposely grown.**

No, in a crop field many other undesirable plants may grow naturally along with the crop, these are called weeds.

9. **Boojho wants to know whether weedicides have any effect on the person handling the weedicide sprayer.**

Yes, sprayer of weedicide may affect the health of farmers.

10. **Boojho wants to know how many tools are used in cutting of crops?**

It is done by sickle or by a machine called harvester.

11. **One day Paheli saw his mother putting some dried neem leaves in an iron drum containing wheat. She wondered, why?**

This prevents the attack by insects, pests, bacteria and fungi.

12. **Boojho wants to know what are the various foods we get from animal sources?**

Milk, meat, egg, honey, wax etc. are found from animal sources.

Textbook Question

1. **Select the correct word from the following list and fill in the blanks :**

Float, water, crop, nutrients, preparation.

- (i) The same kind of plants grown and cultivated on a large scale at a place is called
- (ii) The first step before growing crops is of the soil.
- (iii) Damaged seeds would not float on water.
- (iv) For growing a crop, sufficient sunlight, and from the soil are essential.



(i) crop	(ii) preparation	(iii) float	(iv) water, nutrients
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2. Match the items in column I with those in column II

Column I	Column II
i. Kharif crops	a. Food for cattle
ii. Rabi crops	b. Urea and super phosphate
iii. Chemical fertilizers	c. Animal excreta, cowdung, urine, and plant waste.
iv. Organic manure	d. Wheat, gram and pea
	e. Paddy and maize

i. e	ii. d	iii. b	iv. c
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3. Give two examples of each :

(i) Kharif Crop

(ii) Rabi crop

(i) Kharif Crop : Soyabean and Groundnut.

(ii) Rabi Crop : Pea and mustard.

4. Write a paragraph in your own words on each of the following :

(i) Preparation of soil

(ii) Sowing

(iii) Weeding

(iv) Threshing

(i) Preparation of soil : Soil is prepared before sowing the seeds. The soil is loosened to increase the absorption of water and manure. Loosening of soil particles adds humus and nutrients in the soil that increases crop yields. Tilling or loosening the soil is done by plough which is pulled by a pair of bulls. Tractor driven cultivators are also used to loosen the soil.

(ii) Sowing : After preparation of soil, it is ready for sowing of seeds. Healthy and clean seeds should be selected. Sowing is done by seed drill or funnel shaped tools. Seed drill is a modern instrument which can sow seeds at proper depth and distance.

(iii) Weeding : The unwanted plants that grow along with the crops are called weeds. They hinder the growth of plant, by absorbing nutrients from the soil. Thus, it is necessary to remove them, otherwise, they make the soil nutrient deficient. Process of removing weeds is called weeding. It can be done manually or by mechanical tools. Some chemicals like 2, 4-D can also be used.



(iv) Threshing : Separation of grains from the chaff is called threshing. When the crop matures, it is harvested and cut along with the stalks. Grains are then separated from the chaff using a winnowing machine.

5. Explain how fertilizers are different from manures.

- (i) Manures are organic substances while fertilizers are chemical substances.
- (ii) Manures are prepared in fields, while fertilizers are prepared in factories.
- (iii) Manures contain all the nutrients, while fertilizers are rich in certain nutrients.
- iv. Manures provide humus, while fertilizers do not provide it.

6. What is irrigation? Describe two methods of irrigation which conserve water.

The supply of water to crops at different intervals is called irrigation. Latest irrigation method help us to use water economically. The main methods used are as follows.

i. Sprinkler system : This system is more useful on the uneven lands where water is available in smaller quantity. The perpendicular pipes, having rotating nozzles on the top, are joined to the main pipe lines at regular intervals. When the water is allowed to flow through the main pipe with the help of a pump, it escapes from the rotating nozzles. It is sprinkled on the crop as if it is raining. Sprinkler is very useful for the sandy soil.

ii. Drip system : In this system, the water falls drop by drop just at the position of the roots. So it is called drip system. It is the best technique of watering fruit plants gardens and trees. This system consists of a main pipe to which lateral pipes are joined. The specially prepared nozzles are attached to these lateral pipes. The nozzles are grounded just near the roots of the plants. It provides water to plants drop by drop. Water is not wasted at all. So, it is a boon in regions where availability of water is poor.

7. If wheat is sown in the Kharif season, what would happen? Discuss.

Wheat's seeds need low temperature and less humidity to grow. If they are sown in Kharif season, (i.e, rainy season), the seeds would get destroyed due to excess of water and would not grow.

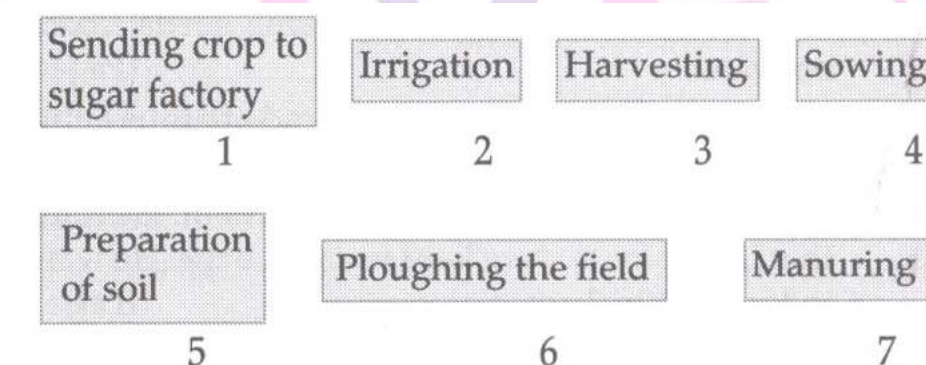
8. Explain how soil gets affected by the continuous plantation of crops in a field.

Soil is the source for plants from which they derive their mineral nutrients, essential for their growth. If crops are grown continuously in the same field, for a long period of time, the soil becomes poorer in nutrients. Thus, soil gets deficient in nutrients and the field becomes infertile.

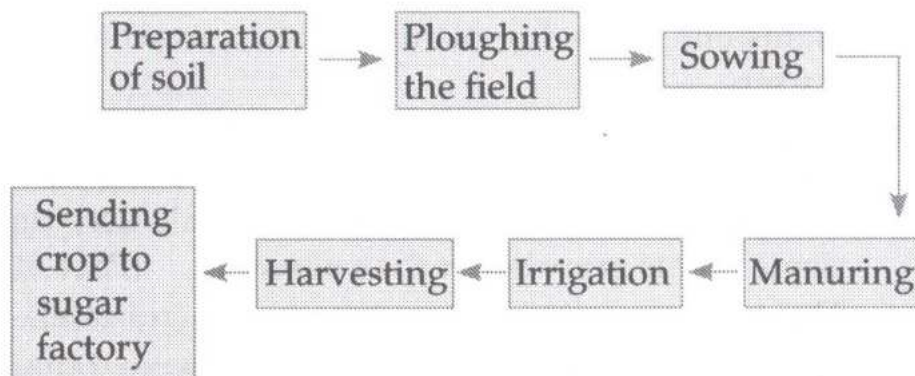
9. What are weeds? How can we control them?

Weeds are the undesirable (unwanted) plants that may grow naturally along with the crops. They are hazardous to the crops as they compete with the crop for food, nutrients, water and sunlight. Hence, they must be controlled. The process of controlling or removing weeds from the field is known as weeding. There are several methods to remove weeds such as tilling in which weeds are uprooted. They are also controlled by chemicals known as weedicides which kill the weeds, e.g. 2, 4-D.

10. Arrange the following boxes in proper order to make a flow chart of sugarcane crop production.



Ans.



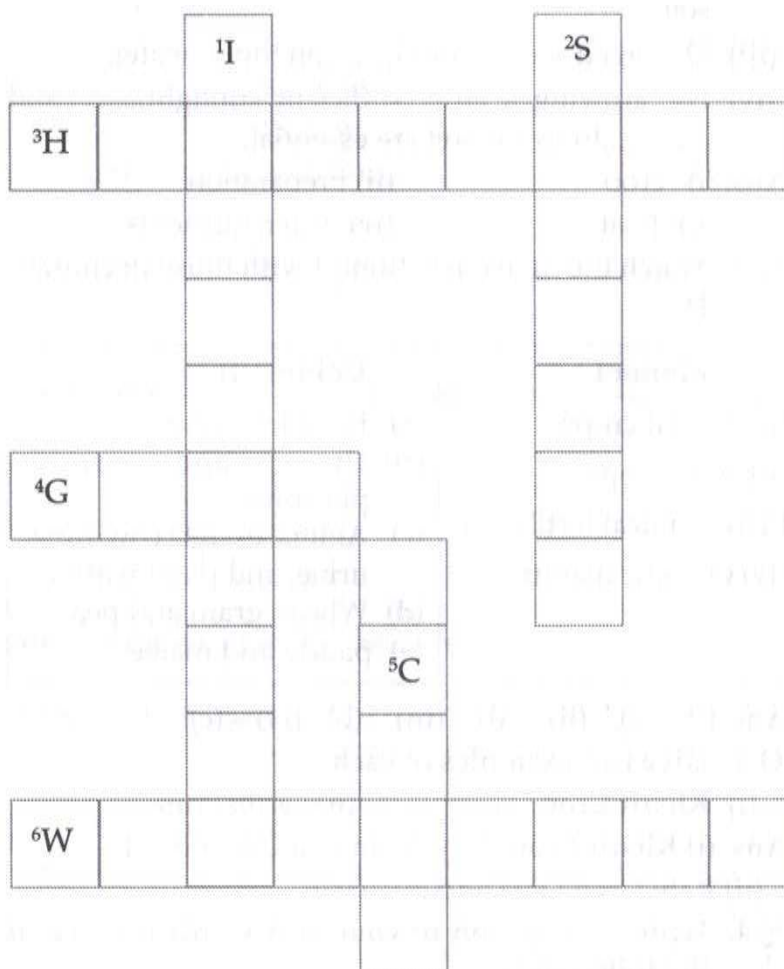
11. Complete the following word puzzle with the help of clues given below.

Down

1. Providing water to the crops.
2. Crop grains have to be kept for a long time in proper conditions.
5. Certain plants of the same kind grown on a large scale.

Across

3. A machine used for cutting the matured crops.
4. A rabi crop that is also one of the pulses.
5. A process of separating the grains from chaff.



1. Irrigation	2. Storage	3. Harvester	4. Gram	5. Crop	6. Winnowing
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I. Very Short Answer Type Questions.

1. How green plants synthesise their food?

Green plants synthesise their food on their own by the process of photosynthesis.

2. Where do animals get their food?

Animals get their food from plants and other animals.

3. What do you mean by crop?

Plants of same kind, are cultivated at a place, on a large scale, is called a crop.

4. Name two broad cropping patterns.

(i) Kharif crops

(ii) Rabi crops

5. Give any two examples of kharif crops.

(i) Paddy

(ii) Maize



6. Give any two example of rabi crops.

Ans : (i) Wheat (ii) Gram

7. What are agricultural practices?

The various steps followed to grow crops and storing the crop grains is referred to as agricultural practices.

8. What do you mean by the tilling or ploughing?

The process of loosening and turning of the soil is called tilling or ploughing.

9. What is plough?

The device used for tilling or ploughing is called plough.

10. Name two materials used to make a plough.

Wood and iron.

11. What are crumbs?

The big pieces of soil are called crumbs.

12. Name any three tools used in agriculture.

Plough, hoe, cultivator.

13. Write two uses of plough.

- (i) It is used for tilling of soil
- (ii) It is used to remove the weeds.

14. Write two uses of hoe.

- (i) It is used to remove the weeds
- (ii) It is used to loosen the soil

15. What is traditional tool used for sowing?

The tool used traditionally for sowing seeds is a funnel shaped tool.

16. What is manure?

Manure is a natural substance obtained by the decomposition of plants, animals, and human waste.

17. What do you mean by manuring?

The process of providing manure to replenish the soil with nutrients is called manuring.

18. What are fertilisers?

Fertilisers are the chemical substances which are rich in a particular nutrient.

19. Which one is better, to use manure or to use fertilisers?

Using manure is better than using fertilisers.



20. What do you mean by the term irrigation?

The supply of water to crops at regular intervals is called irrigation.

21. Is the time and frequency of irrigation same for all the crops?

The time and frequency of irrigation varies from crop to crop.

22. Name some sources of water for irrigation.

Wells, tubewells, ponds, rivers and canals are some sources of irrigation.

23. Mention traditional methods of irrigation.

(i) Moat (ii) Chain pump (iii) Dhekli (iv) Rahat (lever system)

24. What is the use of pumps?

Pumps are mainly used for lifting water.

25. What are the modern methods of irrigation?

(i) Sprinkler system (ii) Drip system

26. What are weeds?

The unwanted plants growing naturally along with the main crop are called weeds.

27. What is weeding?

The process of removal of weeds is called weeding.

28. What are weedicides?

The chemical substances which are used to control weeds are called weedicides.

29. Name a weedicide which is commonly used by the farmers.

The weedicide commonly used by the farmers is 2, 4-D.

30. Define harvesting.

Cutting of crops after its maturation is called harvesting.

31. What is threshing?

The process by which grains are separated from the chaff is called threshing.

32. Name the machine which is a harvester and a thresher.

Combine

33. What is winnowing?

It is a process of separation of grains from the chaff.

34. Name some harvest festivals.

Pongal, Baishakhi, Nabanya, and Bihu are some harvest festivals.



35. What do you mean by storage?

The process of keeping harvested grains for a long time by saving them from moisture, insects, rats and microorganisms is called storage.

36. Why is it necessary to dry grains before storage?

The grains are properly dried in the sun to reduce the moisture in them. This prevents the attack by insects, pests, fungi and bacteria.

37. Name two devices which are used to store grains at large scale.

- (i) Silos (ii) Granaries

38. Name some animals which provide food.

Cow, buffalo, hen, fish, etc.

39. Name two milk yielding animals.

- (i) Cow (ii) Buffalo

40. Mention the name of three animals which provide meat.

Goat, hen and fish

41. What do you mean by animal husbandry?

Rearing of animals at home or farms by providing them with proper food, shelter and care refers to animal husbandry.

42. Name a vitamin, which is found in cod liver oil.

Vitamin D.

43. Which time is best for weeding?

The best time for weeding is before crop plants produce flowers and seeds.

44. Name two main parts of the plough.

- (i) Plough share (ii) Plough shaft

45. Name a fertiliser, which is rich in nitrogen.

Urea.

II. Very Short Answer Type Questions.

1. Write full form of NPK

Nitrogen, Phosphorus, Potassium.



2. What is winnowing?

Winnowing is a process by which small farmers do the separation of grains from chaff.

3. When was agriculture born?

When nomadic people cultivated land and produced rice, wheat and other food crops, agriculture was born.

4. What are the crops grown generally from June to September called?

Crops grown generally from June to September are called Kharif crops. e.g., maize, groundnut, soyabean.

5. What is the first step before growing a crop?

The first step before growing a crop is the preparation of soil.

6. What are the main tools used for agriculture practices?

The main tools are plough, hoe and cultivator.

7. What will happen if freshly harvested grains are stored without drying?

Grains should be properly dried to reduce the moisture and this prevents the attack by insects, pests, bacteria and fungi.

8. Where is the sprinkler water system useful ?

Sprinkle water system is useful on the uneven land and at the land where water is not available. It is good for sandy soil.

9. Why are traditional irrigation methods cheaper?

Cattle or human labour is used in these methods so they are cheaper.

10. Name two harvest festivals celebrated in India.

Pongal, Baisakhi.

11. What is the process of loosening and turning of the soil called?

Tilling or ploughing.

12. What is a strong triangular iron strip of plough called?

Plough share.

13. Who increases the number of friendly microbes?

The loosened soil.

14. The irrigation system that sprinkles water on the crops as if it is raining?

Sprinkle water system.



15. Pick out the odd one from the following words given in the box and give reason for it.

(NCERT Exemplar)

Plough, seed drill, hoe, chain pump, sickle.

Seed drill is an odd pair in the above given set of tools as it is a modern agriculture tool used to sow seeds at uniform distance and to properly cover them with soil.

16. What are organic foods? (NCERT Exemplar)

The crops that are cultivated using organic substances like manures etc, and prohibit the use of harmful chemical substance like fertilizer, pesticides, weedicides etc. are called organic foods.

17. During which months do farmers grow mustard in India? (NCERT Exemplar)

Farmers grow mustard during the months from October-March. Mustard is a rabi crop that is sown in beginning of winters (Oct-Nov) as it needs low temperature and harvested at the end of winter (April-May).

18. Which activity of the farmer can promote growth of earthworms and microbes in the field? (NCERT Exemplar)

Ploughing of the soil during soil preparation creates aeration and loosens the soil which promotes earthworms and microbes to grow and releases nutrients in soil.

III. Very Short Answer Type Questions.

1. If you are given a dry piece of land cultivation what will you do before sowing the seeds?

The field will be watered, tilled and ploughed before sowing seeds.

2. During which months do farmers grow mustard in India?

October to March.

3. Which activity of the farmer can promote growth of earthworms and microbes in the field?

Loosening the soil/ maintain high moisture levels in soil.

4. What are organic foods?

Crops cultivated without using any chemicals like fertilizers, pesticides, weedicides, etc. are called organic foods.



5. Why does a farmer rotate crops in a field?

A farmer rotates crops as it maintains fertility of soil, gives better yields and prevents crop diseases and pests.

6. What do you mean by transplantation?

The process of shifting seedlings from the nursery to the main field is called transplantation.

I. Short Answer Type Questions.

1. Bear, wants to practice crop rotation in his field. Suggest a Rabi crop and a kharif crop which will replenish his field with nitrogen, Which crop replenishes nitrogen and why?

Kharif : Rice or Soyabean

Rabi: Pea or Wheat

Pea/ Soyabean are legumes that will fix nitrogen with the help of Rhizobium.

2. a. Name the tool used with a tractor for sowing seeds in a field.

b. What are the advantages of using this tool?

a. Seed drill.

b. The advantages are:

i. Seeds are sown at a uniform distance and depth to avoid overcrowding.

ii. After sowing, seeds are covered by soil which prevents them from being eaten

iii. it saves time and labour.

3. a. Name the practice followed for large scale rearing of farm animals.

b. What facilities are provided to farm animals?

a. Animal husbandry

b. Animals are provided with proper food, shelter and care.

4. Classify the following crops into Kharif and Rabi crops.

Maize, paddy, mustard, pea, gram, wheat, groundnut, cotton.

Kharif : Maize, Paddy, Groundnut, cotton

Rabi : Mustard, Pea, wheat, gram



5. Despite favourable climatic conditions a farmer's crop failed to give good yield.

Give the possible reasons for this.

- a. He did not use good quality seeds.
- b. His field was not well irrigated.
- c. Manures/ fertilizers were not properly applied.
- d. Weeds were not removed.

6. Write some precautions while sowing seeds.

- a. Seeds should be sown at a proper depth and distance from each other.
- b. Seed should be healthy, clean, and free from diseases.

II. Short Answer Type Questions.

1. Why do we have to eat food?

Food provides us energy. The energy provided by food is utilised by the organisms for carrying out their various body functions, such as digestion, respiration and excretion. We get our food from plants and animals.

2. Explain : (i) Kharif crops , (ii) Rabi crops.

(i) Kharif crops : the crops which are grown in the rainy season (June to September) are called kharif crops. Paddy , maize , soyabean , groundnut , cotton are some of the major kharif crops.

(ii) Rabi crops : The crops sown in the winter season (October to March) are called rabi crops. Wheat , gram , pea , mustard and linseed are some of the major rabi crops.

3. List various agricultural practices.

The agricultural practices are listed below;

- | | |
|-------------------------------------|-----------------|
| (i) Preparation of soil | (ii) Sowing |
| (iii) Adding manure and fertilisers | (iv) Irrigation |
| (v) Protecting from weeds | (vi) Harvesting |
| (vii) Storage | |

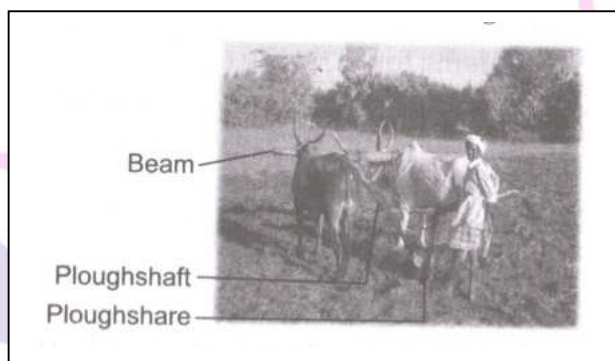
4. Why is the soil loosened before seeds are sown?

The soil should be loosened before sowing. The loosened soil allows the roots to penetrate deep into soil. It helps the roots to breathe. The loosened soil helps in the growth of

earthworms and microbes present in the soil. These organisms are called farmer's friends since they further turn and loosen the soil. They also add humus in soil.

5. What is plough?

This implement is made of wood and iron. It is drawn by a pair of bulls or other animals. It has a strong triangular iron strip called ploughshare. The main part of the plough is a long log of wood, called ploughshaft. Plough is used for tilling the soil, adding fertilisers to the crop removing weeds and turning the soil.



6. What is hoe? What is its use?

Hoe is a simple tool which is used for removing weeds and for loosening the soil. It has a long rod of wood or the iron. A strong broad and bent plate of iron is fixed to one of its ends and works like a blade. It is also pulled by animals.

7. Explain a method to separate healthy seeds from the damaged seeds.

Take a beaker and fill half of it with water. Put a handful of wheat seeds and stir well. Wait for some time. We observe that some seeds float on the surface of water. These are damaged seeds, separate them. It is a good method for separating good and healthy seeds from the damaged seeds.

8. Explain : Traditional method of sowing.

Traditionally, the tool used for sowing is shaped like a funnel. The seeds to be sown are filled into the funnel and passed down through two or three pipes, having sharp ends. These sharp ends pierce into the soil and place the seeds in soil.



9. Explain : Modern method of sowing.

In the modern method, a seed drill is used to sow the seeds in the soil, through tractors. Seed drill helps in uniform distribution of seeds at proper distance and depth. It also ensures that seeds are covered with soil after sowing. This protects the seeds from being eaten by birds. This can save, both time and labour. Also, appropriate distance between the seeds; ensure enough sunlight; nutrients and water from soil.



10. Explain, how manure is prepared by the farmers?

Manure is an organic substance obtained by decomposition of plant or animals, wastes. Farmers dump plant and animal wastes in pits at open places and allow it to decompose. Decomposition is facilitated by microorganisms. This decomposed matter is used as organic manure.

11. What are fertilisers? How do they differ from manure on the basis of their formation?

Fertilisers are the chemical substances which are rich in a particular nutrient. Fertilisers are produced in the factories while manure can be made by farmers using plant and animal waste in the fields. Some examples of fertilisers are urea, ammonium sulphate, super-phosphate, pot ash, N.P.K. (Nitrogen, Phosphorus, Potassium).

12. Explain some harmful effects of using fertilisers.

Excessive use of fertilisers can reduce the fertility of soil. They have also become a source of pollution.

13. Write two advantages of manures.

- (i) The use of manure improves soil texture and water retaining capacity of the soil.
- (ii) It replenishes the soil with all the nutrients.

14. What is crop rotation? Write its importance.

The process of growing different crops alternately year by year is called crop rotation.

It helps in the replenishment of the soil with nutrients and thus maintains the fertility of the soil.

15. What is the role of water in the production of crops?

Water is essential for plants. It helps in germination of seeds because seeds cannot germinate under dry conditions. Nutrients dissolved in water get transported to each part of the plant. It protects the crops from frost and hot air currents. Water is important for proper growth and development. Along with water, minerals and fertilisers are also absorbed. Plants contain nearly 90% water. The time and frequency of irrigation varies from crop to crop; soil to soil and season to season.

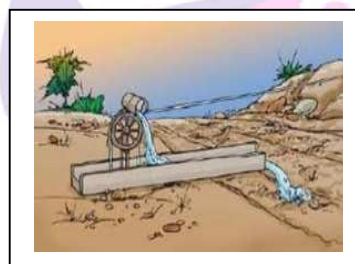
16. Explain traditional methods of irrigation.

The water available in wells, lakes and canals is lifted up by different methods in different regions, for taking it to the fields. Cattle or human labour is used in these methods. These methods are cheaper but less efficient. The various traditional ways are;

(i) Moat (Pulley system)



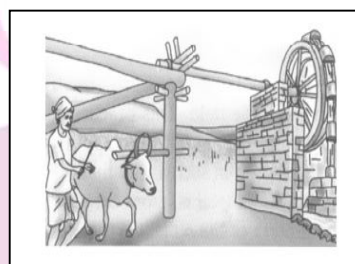
(ii) Chain pump



(iii) Dhekli



(iv) Rahat (Lever system)



17. What is weeding? Why is it necessary?

The process of removal of weeds is called weeding. Weeding is necessary, as weeds compete with crop plants for water, nutrients, space and sunlight. Thus they affect the growth of crop. Some weeds can even interfere in harvesting and may be poisonous. Thus, they must be removed.

18. Explain the various methods of weeding.

Farmers use many ways to remove weeds and control their growth. Tilling before sowing of crops helps in uprooting and killing weeds, which may then dry up and get mixed with the soil. The best time for the removal of seeds is before they produce flowers and seeds. Khurpi is used to remove weeds by uprooting or cutting them from time to time.

A seed drill can also be used to uproot weeds. Weeds can also be controlled by using weedicides like 2, 4-D.



19. Explain various methods of harvesting in our country.

There are mainly two methods which are used for harvesting of crops;

- **Manual** : A device called sickle is used to harvest mature crops manually.
- **By Machine** : A machine called harvester is also used to harvest crops. A machine called combine which is in fact, a harvester and a thresher can be used for it. This machine does both the functions of harvesting and threshing at the same time.



Sickle



Combine

20. Write a note about Harvest festivals?

After three or four months of hard work farmers can harvest crops. The sight of golden fields of standing crops, laden with grains fills the hearts of farmers with joy and a sense of well being. Men and women celebrate this period with great enthusiasm. This period of joy is called Harvest Festival. Pongal, Baishakhi, Holi, Diwali, Nabanya and Bihu are such **harvest festivals**.

21. How do grains are stored and preserved?

Farmers store the harvested grains in jute bags or metallic bins. However, on a large scale this is done in silos and granaries, to protect them from pests like rats and insects.

Drive neem leaves are used for storing food grains at home. For storing large quantities of grains in big godowns, specific chemical treatments are required to protect them from pests and microorganisms.



Silos for storage of grains



Storage of grains in gunny bags in granaries

22. Write the name of some food material, provided by animals.

S.No	Food	Sources
1	Milk	Cow , Buffalo , Goat , Camel
2	Eggs	Hen , Duck
3	Meat	Fish , Hen , Goat
4	Meat and milk	Goat

III. Short Answer Type Questions- I

1. Why is the process of loosening and turning of the soil an important task in agriculture?

This allows the roots to penetrate deep into soil. The loose soil allows the roots to breathe easily deep into the soil and also helps in the growth of earthworms and microbes present in soil as they add humus to it.

2. Why is levelling of soil essential?

The field is levelled for sowing and for irrigation purposes.

3. What are the advantages of using seed drill ?

Seed drill sows the seeds uniformly at proper distance and depth.



4. Why fields have to be watered regularly ?

Water is essential because germination of seeds does not take place under dry conditions.

5. How can a farmer increase the fertility of the soil?

Farmers can increase the fertility of the soil by :

- (i) adding manure and fertilizers.
- (ii) crop rotation.
- (iii) leaving the field uncultivated in between two crops.

6. Why is weeding necessary?

Weeding is necessary since weeds compete with the crop plants for water, nutrients, space and light. They affect growth of the crop. Some weeds may be poisonous for animals and human beings.

7.

(i) Name the practice followed for large scale rearing of farm animals.

(ii) What facilities are provided to farm animals? (NCERT Exemplar)

- (i) The practice of rearing of farm animals on a large scale is called animal husbandry.
- (ii) In animal husbandry, animals are provided with proper food, shelter and care.

8. (i) Name the tool used with a tractor for sowing seeds in a field.

(ii) What is the advantage of using this tool? (NCERT Exemplar)

- (i) The tool used with the tractor for sowing seeds in a field is seed drill.
- (ii) It protects the seeds from the damage caused by birds.

9. Beera wants to practice crop rotation in his field. Suggest a rabi crop and a kharif crop which will replenish his field with nitrogen. Which crops replenish nitrogen and why? (NCERT Exemplar)

Rabi crops are wheat, pea, mustard while Kharif crops are maize, paddy (rice) and soyabean. These are grown in different seasons and therefore can very well be rotated alternatively. Pea and soyabean are leguminous plants which harbour bacteria i.e., Rhizobium in their nodules, thus help in fixing nitrogen. These nitrogen fixing plants can replenish nitrogen in the field and hence Beera can easily practice crop rotation.



10. Classify the following crops into Kharif and Rabi crop and write in the tabular columns given below : Maize, paddy, mustard, pea, gram, wheat, groundnut, cotton.

(NCERT Exemplar)

Kharif Crop	Rabi Crop
Maize	Mustard
Paddy	Pea
Groundnut	Wheat
Cotton	Gram

III. Short Answer Type Questions-II

1. Differentiate between Fertilizer and Manure. Ans. Differences between fertilizer and manure :

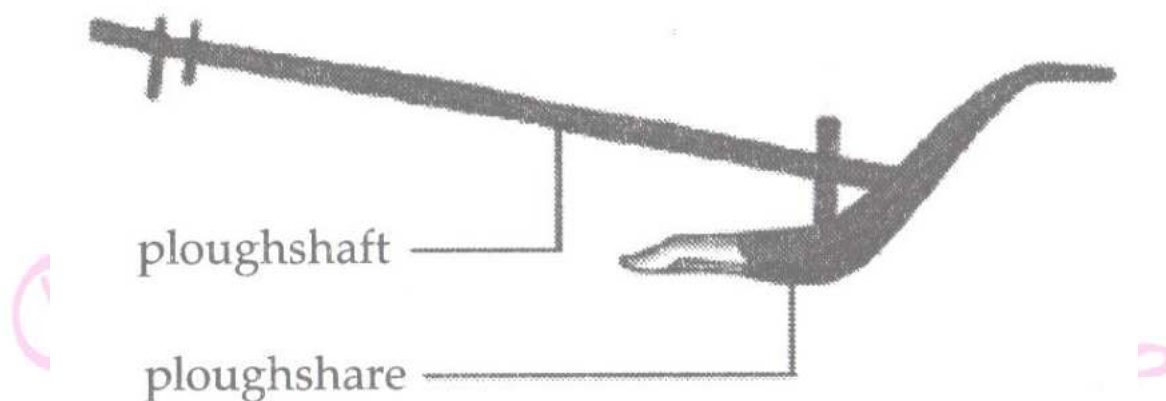
S.No.	Fertilizer	Manure
(i)	A fertilizer is an inorganic salt.	Manure is a natural substance obtained by the decomposition of cattle dung, human waste and plant residues.
(ii)	A fertilizer is prepared in factories.	Manure can be prepared in the fields.
(iii)	A fertilizer does not provide any humus to the soil.	Manure provides a lot of humus to the soil.
(iv)	Fertilizers are very rich in plant nutrients such as nitrogen, phosphorus and potassium.	Manure is relatively less rich in plant nutrients.

2. List all the activities practiced during cultivation of crops. Ans. The activities practiced during cultivation of crops are :

- | | |
|-------------------------------------|-----------------|
| (i) preparation of soil, | (ii) sowing |
| (iii) adding manure and fertilizers | (iv) irrigation |
| (v) protecting from weeds | (vi) harvesting |
| (vii) storage. | |

3. Explain the structure of plough.

Plough is a tool used since ancient times for tilling soil, adding manure etc. This implement is made of wood. It contains a strong triangular iron strip called ploughshare.



The main part of the plough is a long wood called ploughshaft. There is a handle at one end. Other end is attached to beam, placed on the bullock's neck.

4. What are the advantages of manure?

Advantages of manure :

- (i) It enhances the water holding capacity of the soil.
- (ii) It makes the soil porous due to which exchange of gases becomes easy.
- (iii) It increases the number of friendly microbes.
- (iv) It improves the texture of the soil.

5. What are the disadvantages of fertilizers ?

Disadvantages of fertilizers :

- (i) They become source of water pollution.
- (ii) They make soil less fertile.
- (iii) They do not provide any humus to the soil.

6. Despite favourable climate conditions, a farmer's crop failed to give good yield. Give the possible reasons for this. (NCERT Exemplar)

Despite favourable climate conditions, farmer's crop failed to give good yield, the possibilities may be :

- (i) he did not use good quality and healthy seeds.
- (ii) his field was not well irrigated.
- (iii) Manure / fertilizers were not timely and properly applied.
- (iv) Weeds were not removed.
- (v) Seeds were not sown at appropriate distance.



(vi) The soil was not ploughed and levelled properly.

7. What is weeding? Why is it necessary?

The process of removal of weeds is called weeding. Weeding is necessary, as weeds compete with crop plants for water, nutrients, space and sunlight. Thus, they affect the growth of crops. Some weeds can interfere in harvesting and may be poisonous. Thus, they must be removed.

8. What is the role of water in the production of crops?

Water is essential for plants. It helps in germination of seeds because seeds cannot germinate under dry conditions. Nutrients dissolve in water and get transported to each part of the plant. It protects the crop from frost and hot air currents. Water is important for proper growth and development of flowers, fruits and seeds of plants. Along with water, minerals and fertilizers are also absorbed. Plants contain nearly 90% water. The time and frequency of irrigation varies from crop to crop, soil to soil and season to season.

I. Long Answer Type Questions.

1. Discuss various systems of irrigation.

The supply of water to crops at different intervals is called irrigation. Various systems of irrigation are :

(i) **Traditional methods** : The water available in wells, lakes and canals is lifted up by :

- (a) Moat (Pulley system);
- (b) Chain pump
- (c) Dhekli and;
- (d) Rahat (Lever system)

Pumps are commonly used for lifting water.

(ii) **Modern methods** :

(a) **Sprinkler system** : This system is more useful on uneven land. The perpendicular pipes, having rotating nozzles on top, are jointed to the main pipeline at regular intervals. When water flows through main pipes, it gets sprinkled on the crop as if it is raining.

(b) **Drip system** : In this system water falls drop by drop just at the position of the roots. It is the best technique for watering fruit plants, garden and trees.



2. Explain the main tools used to prepare soil.

Main tools used to prepare soil are as follows :

- (i) **Plough** : This implement is made of wood and is drawn by a pair of bulls or other animals. It is used tilling the soil, adding manure, removing the weeds, scraping of soil etc.
- (ii) **Hoe** : It is a simple tool that is used for removing weeds and for loosening the soil.
- (iii) **Cultivator** : Ploughing is done by tractor-driven cultivator. It uses less labour and time.

3. Paddy is a major cereal crop in our country.

- (i) In which season is paddy cultivated?
- (ii) Discuss the method of sowing.
- (iii) What measures must be taken to prevent spoilage and insect attack of harvested grains? (NCERT Exemplar)

- (i) Paddy is cultivated in rainy season as it is Kharif crop.
- (ii) For sowing paddy, seeds are first grown in a nursery and later seedlings are transplanted in the field. This allows us to select only healthy and better seedlings for cultivation.
- (iii) Measures taken to prevent spoilage or damage of harvested crops from insect attack are :

- (a) Exposing them in drying as freshly harvested crops have moisture.
- (b) Dried neem leaves are added to store grains, so as to prevent damage from pests.
- (c) Specific chemical treatments are also available for protecting crops.

4. As a part of eco-club activity students were asked to raise a kitchen garden in the school premises. They were provided with some materials given in the box. List the other materials you would require. How will you plan the garden? Write the steps.

I Khurpi, Water- can, Spade, Shovel

Besides the given tools, the other items required for raising a garden : seeds and seedlings of vegetables, plants from nursery, kitchen waste, manure, water, soil.

Steps for raising the garden :

- (i) Kitchen waste will be collected and composted in a pit.
- (ii) A patch of land will be identified for the garden.



- (iii) Soil will be dug up and levelled with the help of a spade.
- (iv) Sowing of seeds / transplanting of seedlings will be done.
- (v) Select seeds as per the season.
- (vi) Water the plants regularly and apply compost.
- (vii) Weeds will be removed periodically.

II. Long Answer Type Questions.

1. Explain various agricultural practices.

There are following practices used in agriculture.

- i. **Preparation of soil** : The first step of agriculture is preparation of soil. The soil is to turn and loosen it. It helps in growth and development of plants. The process of loosening and turning of the soil is called tilling or ploughing. Sometimes manure is added to soil before tilling.
- ii. **Sowing** : After preparation of soil the second step, called sowing, takes place. Before sowing, good quality seeds are selected. The seeds should be clean and healthy.
- iii. **Adding Manure and Fertilisers**: Soil supplies minerals and nutrients to the crops. These nutrients are essential for the growth of plants. Sometimes continuous cultivation of crops makes the soil nutrient deficient. Some substances are then, added to replenish the soil. These substances are called manure and fertilisers. Manure and fertilisers are essential to increase the crop production.
- iv. **Irrigation** : The process of watering the crop plants is called irrigation. Plants take all the nutrients and minerals in dissolved form. So water is most essential for germination of seeds, growth and development of plants.
- v. **Harvesting** : After maturation of crop it is cut off. This process is called harvesting. It is done by a sickle or by a machine called harvester.
- vi. **Storage**: Storage of grains is one of the most important tasks. To keep the harvested grains for longer time it should be protected from moisture, pest, insects and other microorganisms.

2. Explain an activity to show that manure and fertilisers are essential to increase production.

Take some green gram (moong) or gram seeds and germinate them. Select three equal sized seedlings. Take three beakers and mark them A , B and C. In beaker A, add little amount of soil mixed with some manure. In beaker B, put some amount of soil mixed with some urea. Take some amount of soil in beaker C, without adding manure or urea. Pour the same amount of water in each beaker and plant the seedlings in each. Keep them in a safe place and water them daily. After a few days, we observe that all the plants in all beakers did not grow at the same rate. Beakers A and B shows the better growth but in beaker B, the growth was fastest. This activity shows that manure and fertilisers are essential for better growth of plants.



3. Write the differences between manure and fertiliser.

Differences between fertilisers and manure.

Fertiliser	Manure
Fertiliser is a man-made inorganic salt	Manure is an organic substance obtained by the decomposition of cattle dung, and plant residues.
Fertiliser is prepared in factories	Manure can be prepared in the fields
Fertiliser does not provide humus to the soil	Manure provides humus to the soil
Fertiliser is very rich in plant nutrients like nitrogen, phosphorus and potassium	Manure is relatively less rich in plant nutrients

4. Write the advantages of manure.

The organic manure is considered better than the fertiliser. This is because;

- i. Manure enhances the water holding capacity of the soil.
- ii. It makes the soil porous due to which exchange of gases becomes easy.
- iii. It increases the number of friendly microbes in the soil.
- iv. It improves the texture of the soil.
- v. It does not create any pollution in the soil.
- vi. It provides all the nutrients.

5. Explain modern methods of irrigation.

The main modern methods of irrigation are as follows;

- i. **Sprinkler System** : This system is more useful on the uneven land where sufficient water is not available. The perpendicular pipes having rotating nozzles on top are joined to the main pipeline at regular intervals.



When water is allowed to flow through the main pipe under pressure with the help of a pump, it escapes from rotating nozzles. It gets sprinkled on the crop as if it is raining. It is very useful for lawns, coffee plantation and several other crops.

- ii. **Drip System** : In this system the water falls drop by drop directly near the roots. So it is called drip system. It is the best technique for watering fruit plants, gardens and trees. Water is not wasted at all. It is a boon in regions where availability of water is poor.





III. Long Answer Type Questions.

1. As a part of eco-club activity students were asked to raise a kitchen garden in the school premises. They were provided with some materials given in the box. List the other materials you would request. How will you plan the garden? Write steps.

Khurpi, water- can, spade, shovel

The following items are required –seeds and seedlings of vegetable plants from nursery, kitchen waste, water.

Steps for raising the garden;

- Kitchen waste will be collected and composed in a pit,
- A patch of land will be identified for the garden.
- Soil will be dug up and leveled with the help of a spade.
- Sowing of seeds/ transplanting of seedlings. select seeds/ seedlings as per the season.
- Water the plants regularly with a water can.
- Compost will be applied.
- Weeds will be removed periodically with the help of Khurpi.

2. Paddy is a major cereal crop in our country.

- In which season is paddy cultivated?
 - What measures must be taken to prevent spoilage and insect attack of harvested grains?
- Rainy season
 - Seeds are first grown in a nursery and later seedlings are transplanted in the field.
 - Grains are sun dried to reduce the moisture content and later stored in jute bags or grain silos.

3. Write about the natural methods to maintain soil fertility.

To maintain the fertility of the soil following natural methods are used;

- Field fallow: The land is left free or fallow for one or more seasons to naturally regain the nutrients.
- Mixed cropping: It is the practice of growing two or more crops simultaneously on the same piece of field. For example. If a cereal crop such as wheat is grown along with a leguminous crop such as pulse (e.g., gram)



c. Crop rotation: it is the process of growing a crop in between two similar crops. For example, wheat crop is planted during the month of November and harvested in March and April. Rice crop is planted in June – July and harvested in October-November. Now in between these two seasons, the land lies empty. Instead of leaving it as it is. The farmers plant a pulse crop in this time.

I. High Order Thinking Skills (HOTS) Questions.

1. Some grass is growing in a wheat field. What will it be known as?

Grass growing in a wheat field is unwanted, thus it will be known as weed.

2. Paddy can not be grown in winter season. If so, why?

Paddy requires a lot of water. So, it can not be grown in winter season. It is grown only in the rainy season.

3. Is the time and frequency of irrigation same for rice and cotton?

No, the time and frequency of irrigation is not same for rice and cotton. It varies from crop to crop.

4. A farmer uses dried neem leaves to store his grains in a metallic container. Give reason.

Dry neem leaves protect the stored food grains from pests such as insects and micro-organisms.

5. Leguminous plants do not require nitrogenous fertilizers. Why?

The planting of leguminous crop in a field has the same effect as adding nitrogenous fertilizers in the field. They can fix atmospheric nitrogen themselves by using nitrogen-fixing bacteria in their root nodules. Therefore, nitrogenous fertilizers are not required for growing leguminous plants.

6. What is soil fertility? Mention some method by which soil fertility can be replenished.

The ability of soil to supply all the essential plant nutrients to a crop in adequate quantity is called soil fertility. Repeated growing of crops in the same soil removes various nutrient elements from the soil due to which the soil loses its fertility.

The soil fertility can be replenished by the following methods

- (i) By keeping the field fallow for one or two seasons.
- (ii) By putting manure and fertilizers in the soil.



(iii) By practising crop rotation.

(iv) By practising multiple cropping (Mixed cropping).

II. High Order Thinking Skills (HOTS) Questions.

1. Why are earthworms considered a farmer's friend?

Earthworms are considered as a farmer's as they turn and loosen the soil. This allows the roots to breathe properly. They turn the organic matter in the soil into humus.

2. Why is it recommended to wash fruits and raw vegetables before eating them?

It is recommended to wash fruits and raw vegetables before eating them to wash away harmful chemicals such as insecticides and pesticides which were sprayed while growing them.

Match the agricultural implements given in Column A with their use given in Column A with their use given in Column B.

Column A	Column B
a. Sickle	i. Ploughing
b. Hoe	ii. Sowing
c. Seed drill	iii. Harvesting
d. Sprinkler	iv. Irrigation

a. iii	b. i	c. ii	d. iv
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I. Value Based Questions.

1. What is the importance of using manure and fertilizers as an agricultural practice ?

Using manure and fertilizers as an agriculture practice is important as continuous growth of crops makes the soil poorer in certain nutrients. These both are added to the soil in the form of nutrients for the healthy growth of plants. Manure replenishes the soil with nutrients and also improves water retaining capacity whereas fertilizers make soil rich in a particular nutrient. They also help farmers to get better yield of crops.

2. Ramu went to his village during vacations. While on his way to a crop field, he saw a person with covered mouth spraying something on crop. He got worried about the crops and asked the person to stop. The person who was his neighbour smiled and explained him the purpose of his act.

Ramu was happy to learn a new fact about farming.

(i) According to you, what was the person doing?

(ii) His mouth was covered. Why?

(iii) Identify the values shown by Ramu.

(i) The person was spraying chemicals called weedicides on his crops to kill unwanted plants (weeds) in his field.

(ii) The mouth of the person was covered to prevent the inhaling of poisonous weedicides.

(iii) Ramu is attentive, observant, cautious and an intelligent boy.

I. Skill Based Questions

1. a. Draw a diagram of a plough and label the following parts.

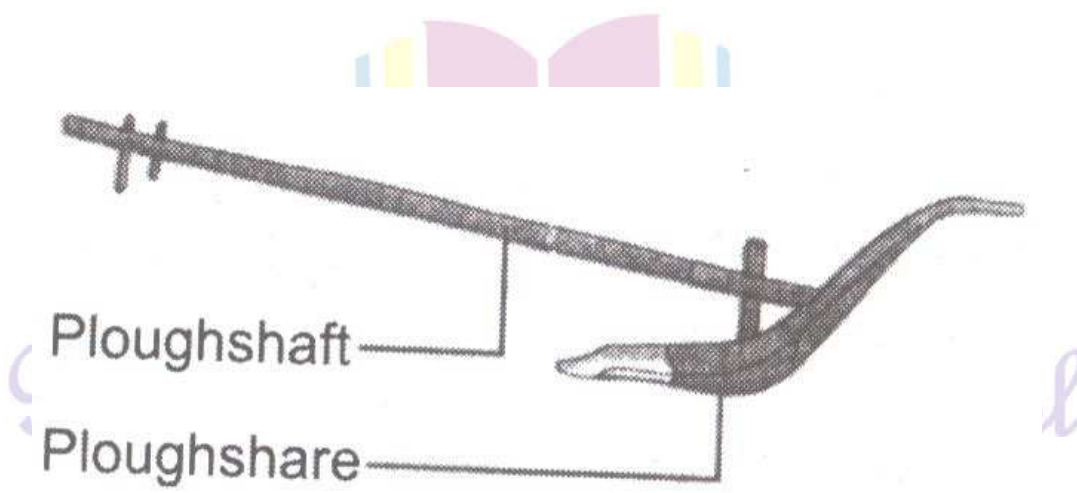
(i) Ploughshaft

(ii) Ploughshare

b. Write the function of plough.

c. Name the animals which are used to draw the plough.

a.



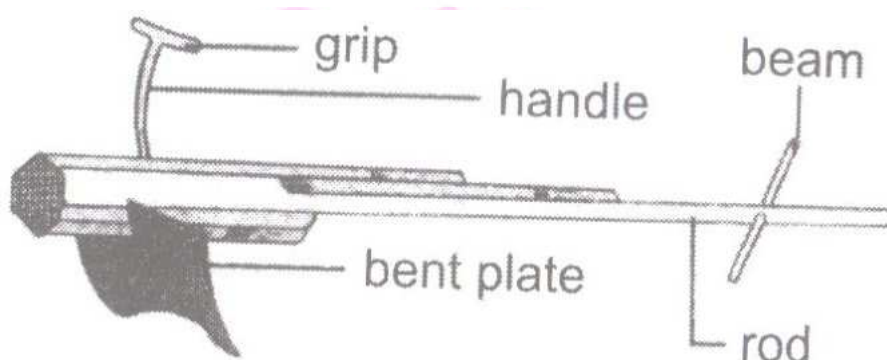
b. The plough is used for tilling the soil.

c. The plough is drawn by a pair of bulls or other animals like horses, camels etc.

2. a. Draw a labelled diagram of a hoe.

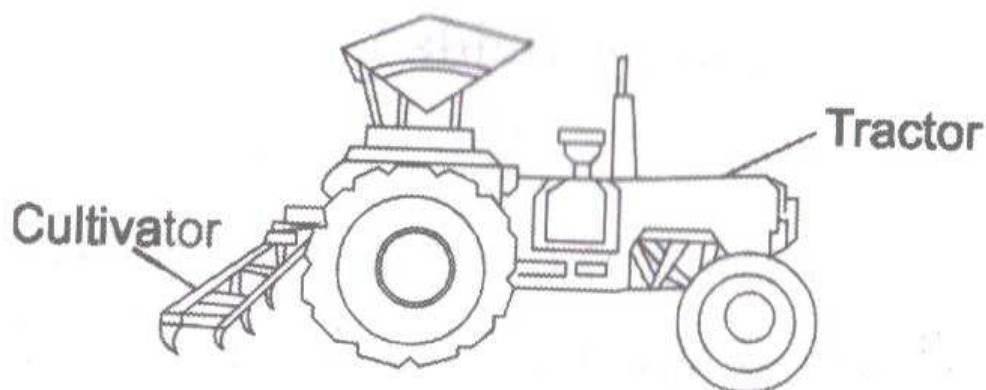
b. Write the function of a hoe.

a.



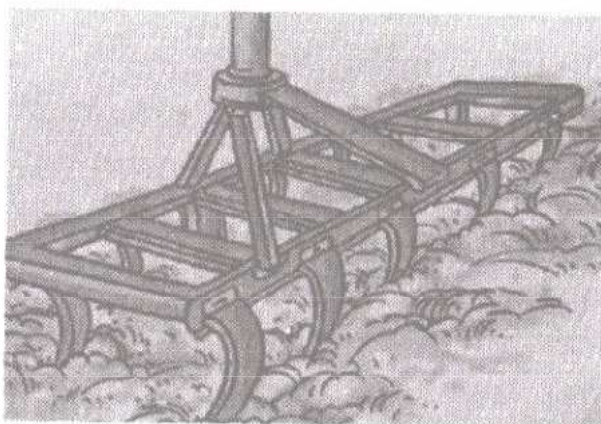
b. A hoe is used for removing weeds and loosening the soil.

3. Observe the following figure. Identify it and write its function.



The given figure is a cultivator driven by a tractor. It is used for ploughing. The use of cultivator saves labour and time.

4. Draw a diagram of seed drill and write its function.



Function of seed drill : It is used for sowing seeds with the help of tractors.

5. Draw a diagram of silos for storage of grains.



Pinkz

hoop



Next Generation School