



## INDIAN SCHOOL AL WADI AL KABIR



<b>Class: VIII</b>	<b>DEPARTMENT: SCIENCE-2021-2022</b>	<b>DATE: 23.01.2022</b>
<b>WORKSHEET NO.: 14 WITH ANSWERS</b>	<b>TOPIC: CROP PRODUCTION AND MANAGEMENT</b>	<b>NOTE: A4 FILE FORMAT</b>
<b>NAME OF THE STUDENT</b>	<b>CLASS &amp; SEC:</b>	<b>ROLL NO.</b>

### I.VERY SHORT ANSWER (1M):

- 1.What is a crop? [Hint- When plants of the same kind are grown and cultivated at one place on a large scale, it is called a crop.]
- 2.What are weedicides? Name one commonly used weedicide. [Hint- The chemicals used to control weeds are known as weedicides. E.g.- 2,4-D.]
3. How is drip irrigation boon in regions with water scarcity? [Hint- The system provides water to plants drop by drop. Water is not wasted at all. It is a boon in regions where availability of water is poor.]
4. What is a combine harvester? [Hint- A combine is a farm machine which is used for both harvesting and threshing.]
5. How do weeds affect the growth of crops? [Hint- Weeds compete with the crop plants for water, nutrients, space and light. Thus, they affect the growth of the crop. Some weeds interfere even in harvesting and may be poisonous for animals and human beings.]
6. Give reason- Farmers must not burn the stubs of crop left in the field after harvesting. [Hint- The burning of left-over stubs of crop causes air pollution. It may also spread fire and damage the crops lying in the fields.]
7. Why are grains first dried in the sun and then packed to be stored in godowns? [Hint- Before storing, the grains are properly dried in the sun to reduce the moisture in them. This prevents the attack by insects, pests, bacteria and fungi.]
8. How does the loosening of soil allow the roots to breathe easily? [Hint- Loosening of soil allows roots of plants to penetrate into the spaces in between the soil particles which have air trapped in them.]
9. ‘The frequency of irrigation of crops is higher in summer season.’ Justify. [Hint- In summer, the frequency of watering is higher. It is due to the increased rate of evaporation of water from the soil and transpiration from leaves.]
10. Why should fertilisers be substituted by organic manure? [Hint- The excessive use of fertiliser changes the chemical nature (acidic or basic) of soil and makes soil less fertile. Fertilisers are also a source of water pollution.]

For the following questions, two statements are given- one labelled Assertion (A) and the other labelled Reason (R). Select the correct answer to these questions from the codes (i), (ii), (iii) and (iv) as given below

- i) Both A and R are true and R is correct explanation of the assertion.
- ii) Both A and R are true but R is not the correct explanation of the assertion.
- iii) A is true but R is false.
- iv) A is false but R is true

11. **Assertion (A):** Earthworms are known as friends of farmers.

**Reason (R):** Earthworms turn and loosen the soil. They also add humus to it.

i) Both A and R are true and R is correct explanation of the assertion.

12. **Assertion (A):** Seed drill ensures that seeds get covered by the soil after sowing.

**Reason (R):** Sowing by seed drill takes a lot of time.

iii) A is true but R is false.

13. **Assertion (A):** The grains are properly dried in the sun to reduce the moisture in them.

**Reason (R):** Large scale storage of grains is done in silos and granaries.

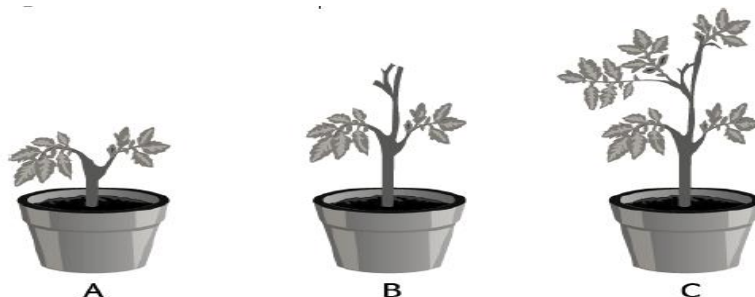
ii) Both A and R are true but R is not the correct explanation of the assertion.

## II. CASE STUDY BASED QUESTIONS

1. A student setup an experiment to study the growth of plants using three different soil type.



The student plants a pea seed in each of the three pots. After 2 months, the student observes the growth of the plants as shown.



- i. What can be the student's conclusion from this experiment?
- (a) Earthworm restrict the growth of the plant by consuming them.
  - (b) Compact soil increases the amount of nutrients in the soil
  - (c) Earthworm increases the fertility of the soil.
  - (d) Loosened soil with no earthworm allows maximum growth of the plant.
- ii. The process of loosening of the soil is called:
- (a) tilling
  - (b) harvesting
  - (c) spraying
  - (d) weeding
- iii. Pea is a ..... crop.
- (a) Rabi
  - (b) Kharif
  - (c) Zaid
  - (d) None of these.
- iv. What is the more likely reason for the poor growth of plant in compact soil with no earthworms?
- (a) Soil is well aerated
  - (b) Soil is poorly aerated
  - (c) Soil is loaded with nutrients
  - (d) None of these
- v. Which bacteria can be found in the root nodules of a pea plant?
- (a) Lactobacillus
  - (b) Rhizobium
  - (c) Yeast
  - (d) Chlamydomonas

### **III. PASSAGE BASED QUESTIONS:**

The substances which are added to the soil in the form of nutrients for the healthy growth of plants are called manure and fertilisers. Manures are organic substances obtained from the decomposition of dead plants and animal wastes. Fertilisers are man-made mineral salts which are added to the soil to provide the specific nutrients like nitrogen, phosphorous and potassium. Take moong or gram seeds and germinate them. Select three equal sized seedlings out of these. Take three beakers and mark them A, B and C. Take some soil in beaker A. To beaker B add some soil mixed with some amount of manure. In beaker C, put some amount of soil mixed with a little urea. Now pour some water and plant seedlings in each of them. Keep them in a safe place and water them daily. Observe the growth for 7-10 days. We will notice that the growth of plants in beaker B is better than others. The growth occurs much faster in beaker C. The use of manure improves soil texture as well as its water retaining capacity. It replenishes the soil with all the nutrients. The use of fertilisers helps in fast growth of plants. But they are made from chemicals and become a source of water and soil pollution.

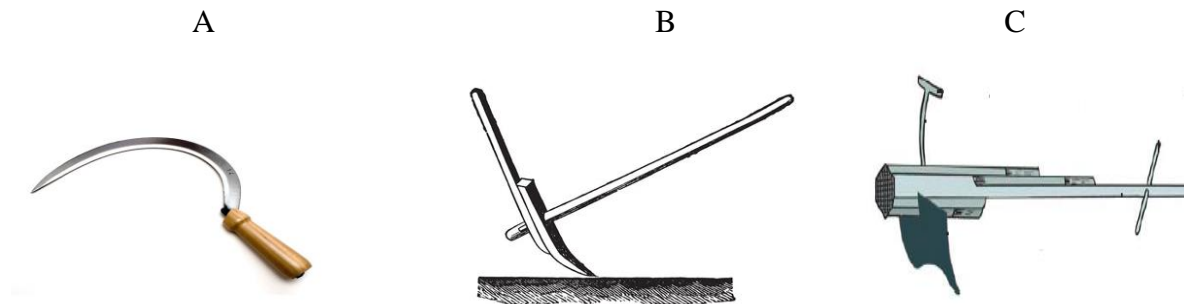
- i. Which beaker will show fast growth of seedlings?
- (a) Beaker A
  - (b) Beaker B
  - (c) Beaker C
  - (d) None of these
- ii. The \_\_\_\_\_ is formed from the decomposition of dead plants and animal wastes.
- (a) Chemical fertilisers
  - (b) Chemical pesticides
  - (c) Manures
  - (d) All of these
- iii. The chemical substances rich in nutrients are called:
- (a) fertilisers
  - (b) weedicides
  - (c) pesticides
  - (d) herbicides
- iv. A farmer uses fertilisers on his land for long period of time and plans to start using manure. What will be the likely benefit of this change?
- (a) It will improve the texture and water retention.
  - (b) It will decrease the number of earthworms in the soil.
  - (c) It will make the soil more compact to hold more water in roots.
  - (d) It will increase particular chemicals in the soil to increase the yield.
- v. Which of the following can be used as a manure?
- (a) Polythene
  - (b) Synthetic fibres
  - (c) Cow dung
  - (d) Polyester fabrics

**IV. a) SHORT ANSWER TYPE QUESTIONS (2 M):**

1. Write the differences between Kharif and Rabi crops with examples. [(i) Kharif Crops: They are sown in the rainy season. The rainy season in India is generally from June to September. Examples- Paddy, maize. (ii) Rabi Crops: grown in the winter season. Their time period is generally from October to March. Examples- wheat, gram, pea.]
2. What do you mean by the term tilling? Mention its advantages. [Hint- The process of loosening and turning of the soil is called tilling or ploughing. It provides aeration and drainage to soil, allows roots of plants to penetrate deep into loose soil, mixes fertilisers uniformly with loose soil, loose soil helps in growth of earthworm and microbes]
3. What is meant by crop rotation? How is it helpful? [Hint: The method of growing crops alternatively on same land is known as crop rotation. E.g.-Legumes (pea, beans, grams and pulses) are grown in first season and wheat should be grown next to it. It is helpful because- the land gets utilised in a better way, soil fertility is maintained, farmer has variety of crops for selling.]
4. Why is it necessary to level the field before sowing the seeds? [Hint: The ploughed field may have big pieces of soil called crumbs. The process of breaking the big lumps of soil with a plank (leveller) is called as levelling. The field is levelled for sowing as well as for irrigation purpose.]

5. In nursery, some plant saplings are kept in small bags. Why? [Hint- In some crops (like rice, tomatoes), the seeds are sown in a small area called nursery. When they germinate into small seedlings, these are transferred to the main field. This is called transplantation. These small plants are kept in bags to protect them from the outer environment and pamper them with suitable growth conditions.]

6. Identify the following agricultural implements and their use.



[Hint- A- sickle- Harvesting B- Plough-Tilling ,adding fertilisers to crop, removing weeds C- Hoe-Removing weeds, used for ploughing.]

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

[Hint- Ploughing of the soil during soil preparation creates spaces in the soil thus, leading to aeration and the soil also loosens which promotes the growth and survival of earthworms and microbes and release of nutrients in the soil.]

8. Bhavin wants to practice crop rotation in his field. Suggest a rabi crop and a kharif crop which will replenish his field with nitrogen.

[Hint- Rabi crops are wheat, pea, mustard while kharif crops are maize, paddy or soya bean. These are grown in different seasons and can be grown alternatively. Pea and soya bean are leguminous plants which harbour rhizobium bacteria in their root nodules. Thus, help in fixing nitrogen and replenishing nitrogen in the field. Bhavin can easily practice crop rotation.]

9. What precaution should be taken while spraying weedicides? Why? [Hint- Spraying of weedicides may affect the health of farmers. So, they should use these chemicals very carefully. They should cover their nose and mouth with a piece of cloth during spraying of these chemicals.]

#### **IV. b) SHORT ANSWER TYPE QUESTIONS (3 M):**

1. Why is manure considered to be better than fertilisers? [Hint- Manure is considered better than fertilisers because it- enhances the water holding capacity of the soil, makes the soil porous due to which exchange of gases becomes easy, increases the number of friendly microbes, improves the texture of the soil.]

2. Why is it essential to irrigate our fields? [Hint: Irrigation of fields is essential because- (a) seeds do not germinate in the absence of water, (b) plants can absorb minerals and fertilisers along with water, (c) nutrients dissolved in water get transported to each part of the plant, (d) water protects the crop from both frost and hot air currents.]

3. How are grains stored and preserved? [Hint- Farmers store grains in jute bags or metallic bins. Large scale storage of grains is done in silos and granaries to protect them from pests like rat and insects. Dried neem leaves are also used in storing food grains at home. For storing large quantities in big godowns, specific chemical treatments are required to protect them from pests and microorganisms.]

4. Explain how will you select good healthy seeds for sowing? [Hint- Take a bowl and fill it up to half with water. Put a handful of gram/wheat seeds in it. Leave the beaker undisturbed for about one hour. Some seeds will float on the water as they are hollow and light. These are unhealthy and damaged seeds. Other seeds which settle down at the bottom are healthy seeds and are good for sowing.]

5. If you are given a dry piece of land for cultivation, what will you do before sowing the seeds? [Hint- If the field is dry for cultivation of crops, the soil preparation is done accordingly before sowing of crops. Preparation of dry soil includes adequate watering to restore the moisture content and then tilled and ploughed to allow growth of microbes and aeration, Finally, the soil is turned and its crumbs are levelled and manures are mixed. The soil is ready for sowing of crops in the field.]

#### **V.LONG ANSWER TYPE QUESTIONS (5 M):**

1. (a) What is meant by Animal husbandry?

(b) Mention the names of few animal products used as food.

(c) What facilities are provided to farm animals? [Hint- (a) The science of rearing, caring, breeding and improvement of domesticated animals is known as animal husbandry. It is the practice of breeding and raising livestock like cows, buffaloes, horses and sheep, etc. This practice requires good care and management of livestock. (b) Fish, meat, milk, egg honey. (c) The animals or livestock in animal husbandry practice should be provided with: appropriate shelter facilities, food and water, good hygienic practices, medical facilities, etc.]

2. Write a short note on the modern methods of irrigation. [Hint-Modern methods of irrigation help us to use water economically. The main methods used 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 the rotating nozzles. It gets sprinkled on the crop as if it is raining. Sprinkler is very useful for 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 for watering fruit plants, gardens and trees. The system provides water to plants drop by drop. Water is not wasted at all. It is a boon in regions where availability of water is poor.]

Prepared by- Mrs. Shruti Mukundan	Checked by : HOD - SCIENCE
-----------------------------------	----------------------------