



CAVALRY DEFENCE ACADEMY (CDA)

DEHRADUN - 8381042191

Production and Management FARMER & FARMING TECHNIQUE

👉 We already know that:

- ✓ All living organisms require food.
- ✓ The energy from food is utilised by an organism for carrying out its various life processes such as digestion, respiration and excretion.
- ✓ Plants can make their food themselves but animals including humans cannot.
- ✓ We get our food from plants or animals, or both.

👉 **Crops** - All the plants that gives us food are grown in groups called **Crops**. Depending on the time and place of their growth, crops are classified into two types.

👉 **Herbaceous Crops** - These are crops grown in a particular season. :

- ✓ **Kharif Crops**: The crops which are grown in the rainy season (i.e., from June to September) are called Kharif crops. Paddy, maize, soybean, groundnut, and cotton are Kharif crops.
- ✓ **Rabi Crops**: The crops are grown in the winter season (i.e., from October to March) are called rabi crops. Examples of rabi crops are wheat, gram, pea, mustard, and linseed.
- ✓ **Zaid Crops (or Summer Crops)**: The crops grown in the summer season are (called zaid crops. Moong, muskmelon, watermelon, cucumber, gourd and bitter gourd are examples of zaid crops.

👉 **Shrubs and Trees**

These crops are also known as **Plantations**. They are cultivated in forests, on orchards or farms.

👉 **Cultivation of crops involves the following activities:**

- ✓ **Soil Preparation**: It involves loosening and tilling of the soil (i.e., ploughing and watering).
- ✓ **Sowing**: Sowing is the process of putting seeds in the soil.
- ✓ **Adding Manure and Fertilisers**: The substances, which are added to the soil in the form of nutrients to improve the production of the crops and fertility of the soil are called manure and fertilisers.
- ✓ **Irrigation**: Supply of water to crops at appropriate intervals is called irrigation.
- ✓ **Protection from Weeds**: Weeds are the unwanted plants that grow along with the crops. Its removal is a must for the better growth of the crops. These can be controlled by spraying certain chemicals, called weedicides, like 2, 4-D.
- ✓ **Harvesting**: The cutting of the crop after it is mature is called harvesting.
- ✓ **Storage**: If the crop grains are to be kept for a longer time, they should be safe from moisture, insects and rats.



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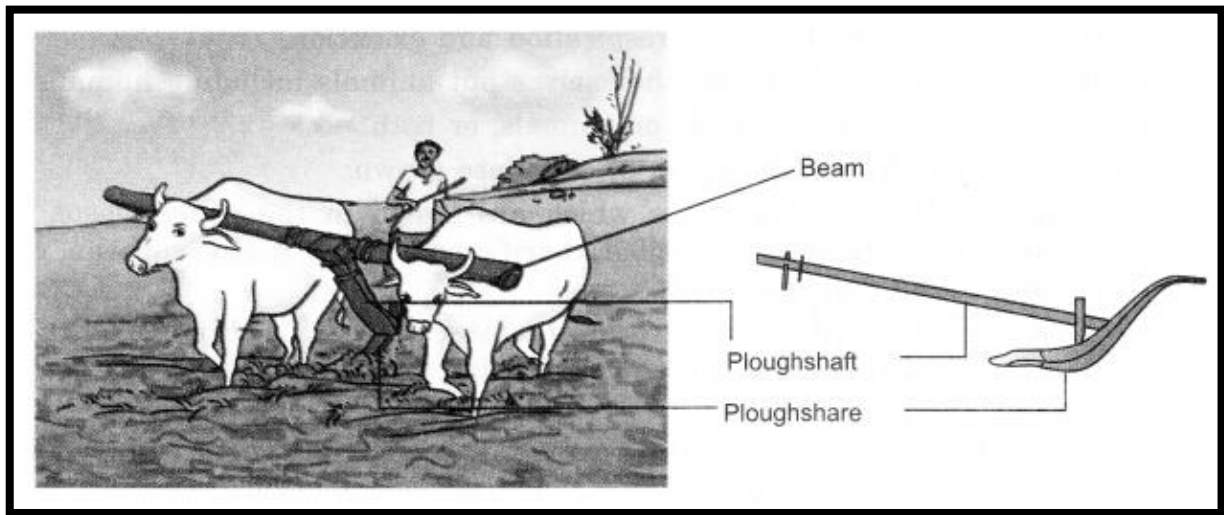
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👉 **Humus:** Humus is the top layer of the soil formed by decaying or decomposition of organic matters like animal remains, shed leaves, the dung of cattle.

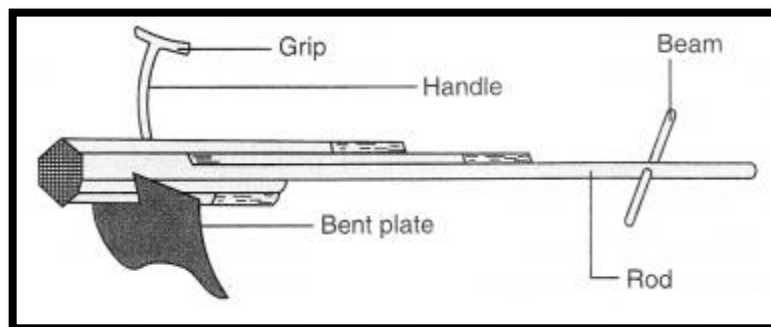
👉 **Pests:** Pests are the insects or rodents that destroy much of our crop yield. Thus, it is necessary to save crops from pests.

Important agricultural tools

👉 A **plough** is a sharp pointed wedge that cuts into the soil. It also turns the soil bringing the lower mineral rich soil to the top. Today, farmers use tractors to draw and drag a multipronged plough. This implement is made of wood and drawn by a pair of bulls.



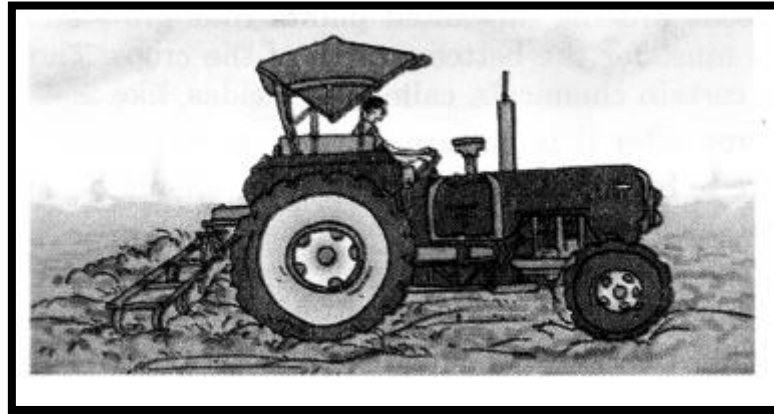
👉 **Hoe:** It is used for removing weeds and for loosening the soil.



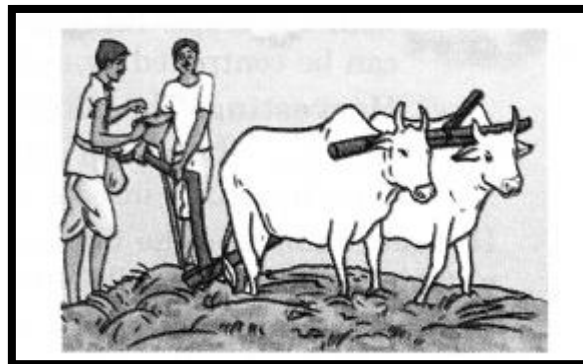


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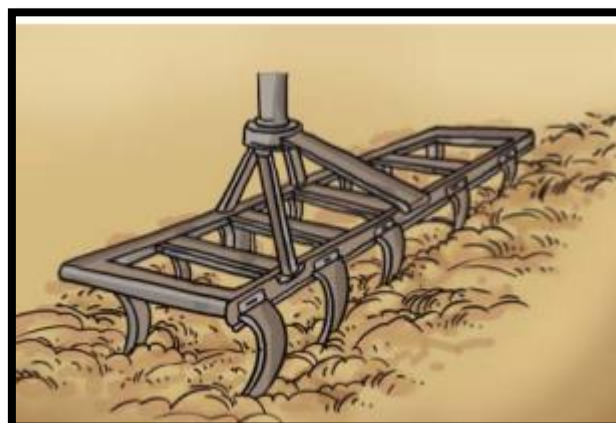
👉 **Cultivator:** Used for ploughing. It is driven by a tractor. Use of cultivator saves labour and time.



👉 **Traditional Tool:** The tool used traditionally for sowing seeds is shaped like a funnel.



👉 **Seed Drill:** Used for sowing with the help of tractors. This tool shows the seeds uniformly at a proper distance and depth.





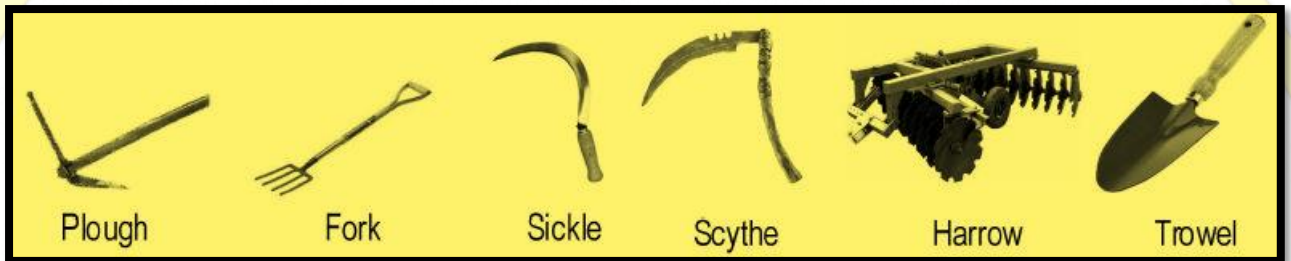
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👉 **Sickle:** Used for manual harvesting.



👉 **Tools in Soil Formation :** Some of the farming tools are :



👉 **Food from Animals:** Like plants, the animals also provide us with different kinds of food like fish, meat and eggs.

👉 **Fumigation:** Fumigation is the most effective method for checking the growth of insects by providing smoke or chemicals in the gaseous state without affecting the grain.

👉 **Agricultural practices:** There are various activities that have to be performed, before sowing and up to harvesting. These are called agricultural practices.

👉 **Animal husbandry:** Animals reared at home or on a farm, have to be provided with proper food, shelter and care, when this is done on a large scale it is called animal husbandry.

👉 **Crop:** When plants of the same kind are grown at a place in a regular manner on a large scale, it is called a crop.

👉 **Fertiliser:** Fertilizers are the substances which contain nutrients essential for plant growth which are rich in a particular nutrient like nitrogen, phosphorus and potassium. The types of fertilizers are :

- ✓ Natural fertilizers or organic fertilizers
- ✓ Chemical fertilizers or inorganic fertilizers



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👉 **Granaries:** The harvested grains, usually are stored in huge stores, after they are properly dried in sunlight. Such stores are called granaries.

👉 **Rotation of Crops : Growing of a leguminous crop in between two cereal or vegetable crops is called rotation of crops.** In multiple or mixed cropping, two or more crops are sown simultaneously in the same field. One of these is a **leguminous crop**. These crops grow and mature at the same time. For example, corn (maize) and soyabean (legume) or any other pulse are cultivated together as *Kharif* or summer crop.

👉 **Harvesting:** The cutting of the crop after it is mature is called harvesting.

👉 **Manual Harvesting:-**

It is done with hands with the help of a hand-sickle. This has been a practice for long and small marginal farmers still make use of this method. Dry matured crop plants are cut at the ground level and are stacked in bundles for threshing,



👉 **Mechanised Harvesting:-**

It is practiced with the help of machines called '**harvester combine**'. It harvests the **crop, threshes and separates** the husk from grains simultaneously. **Clean grains** come out from the machine which are stacked in gunny bags. **Mechanised harvesting** is convenient and fast and it helps in harvesting the crop well before the produce is affected by rain. This helps the farmer in storing or transporting the produce to the market immediately.

👉 **Irrigation:** Supply of water to crops at appropriate intervals is called irrigation.

👉 **Kharif Crops:** The crops which are grown in the rainy season, that is from June to September are called kharif crops.

👉 **Manure:** Manures are decomposed organic matter obtained from plant or animal waste.

👉 **Rabi Crops:** The crops are grown in the winter season, that is from October to March are called rabi crops.

👉 **Seeds:** A plant's fertilised ovules, from which a new plant may grow, are called seeds.



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👉 **Silo:** Harvested grains are usually dried before being stored because moisture encourages the growth of microorganism. They are then stored in metal or earthen container, gunny bags. Such stores are also called silo.

👉 **Seed Sowing :** It is a process to put seeds in the soil. Method of sowing depends on the type of crop.

👉 **Methods of Seed Sowing**

- ✓ Broadcasting Sowing of Seeds by spreading or sprinkling in the field is called **Broadcasting of seeds**. Seeds of crops like barseem and coriander are spread or sprinkled in the field.
- ✓ Dribbling - The seed is placed in a **small hole** in the soil and then the hole is covered with soil.
- ✓ Drill Sowing - Seeds are sown with the help of 'seed drill'. Seeds of wheat, maize, barley and millets are sown in rows and in furrows at a particular depth along the field. Seed drill is a funnel with a long and hollow stem. The farmer puts the seeds into the funnel and the seeds go down the stem, one by one, to get into the soil.

👉 **Storage:** It is to keep crop grains safe from moisture, insects and rats for a long time.

👉 **Threshing:** The process of separation of grains from the chaff in the harvested plant is called threshing.

👉 **Weeds:** Some undesirable or unwanted plants may grow naturally along with the crop, such plants are called weeds.

👉 **Weedicides:** Those certain chemicals which are used to control weeds are called weedicides. For example 2, 4-D (2, 4-dichlorophenoxyacetic acid), metolachlor.

👉 **Winnowing:** A process to bring out the separation of grain and chaff is called winnowing.

👉 **FOOD FROM PLANTS**

Food from plants includes : Cereals, Pulses, Fruits, Vegetables. We also use oils and beverages as part of our food. The plants cultivated on a large scale specially for food are called food **Crops**.



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👉 **Cereals** : The important cereals include **Corn, Wheat and Paddy**. Cereals provide us, Starch, Fibres, Minerals, Some vitamins, Proteins.



👉 **Pulses** : The important pulses include **Pea, Beans and Peanuts**. Pulses are rich in : Starch, Fibres, Minerals, Some vitamins, Proteins.



👉 **Fruits and Vegetables** - They provide us : Nutrients, Minerals, Vitamins, Proteins, Carbohydrates, Gel.

👉 **Crops** - All the plants that gives us food are grown in groups called **Crops**. Depending on the time and place of their growth, crops are classified into two types.

👉 **Shrubs and Trees** - These crops are also known as **Plantations**. They are cultivated in forests, on orchards or farms.

Examples : Tea, coffee, cocoa, mango, apple, guava, plums, roses, etc.

👉 **FOOD FROM FRUITS AND VEGETABLES** : Production of food is not limited to cereals and pulses. Vegetables and fruits form a good part of our food. Salad is a mixture of fruit and vegetables. Food from fruits and vegetables can be studied under three headings :

- ✓ Growing vegetables
- ✓ Growing fruits



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- ✓ Storage of fruits
- ✓ vegetables.

👉 Growing Vegetables

The process of growing vegetables is different from cultivating cereal or pulse crops. Vegetables are mostly soft, seasonal and herbaceous plants. Their storage life (shelf life) is too short and they need immediate transportation to market for sale. Only tubers (potato), corms (ol or zamikand), rhizomes (ginger, turmeric) and bulbs (onion, garlic) can be stored that too not for long. Growth of vegetables is better in compost rich soil, which is moist, airy and porous. Use of fertilizers for vegetables must be limited. Vegetable crops are better irrigated through spray or drip method. Excessive watering may harm and destroy the vegetable crop.

👉 Growing Fruits

The place where fruit trees are grown in called an **orchard**. Most fruit plants are trees or shrubs and are called plantations. Fruits borne on herbs or creepers are Cucumber, Watermelon, Melon, Strawberry and Raspberry. Each variety of fruit plant is planted and looked after in a different way. Each variety of fruit plant is planted and looked after in a different way. Seedless varieties of guava and grapes or superior varieties of apple and mango are grafted plants **Graft** is prepared on a rooted cut shoot (stock) from a wild but sturdy variety on which a cut shoot (scion) from a superior quality fruit bearing plant is attached.

👉 Care of the fruit Plants

- ✓ Special care is taken of the fruit plants for better growth, flowering and fruit bearing capacity.
- ✓ Fruits planted are pruned during non-fruiting season.
- ✓ They are sprayed with pesticides for protection against pests.
- ✓ Honeybees are reared in orchards to help pollination for early and fast setting of fruits.

👉 Management & Marketing of Fruits

- ✓ Fruit management is systematic and important
- ✓ It is time bound since fruits mature and perish soon after plucking.
- ✓ Fruits are packed individually and in cartons and marketed immediately thereafter.

👉 Storage of Fruits and Vegetables

- ✓ Fruits are plucked when fully grown but are yet to mature.
- ✓ Unripe fruits are wrapped individually in old newspaper pieces and then put into crates or packed in cartons.



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- ✓ Crates and cartons are then transported to cold storages, located near fruit wholesale markets or they are put for sale.
- ✓ Tubers, corms, rhizomes are put for sale directly or they are stacked in gunny bags in cold storages.

👉 FOOD FROM ANIMALS

- ✓ Primarily, man has been a hunter and a flesh eater. A good amount of his food comes from animal sources. Besides hunting, man has been taming and rearing animals for food. Some of the food products obtained from animals are :
Milk, Meat, Eggs, Honey.
- ✓ Rearing of animals on a large scale at home or on a farm, taking care of their shelter, proper food, health and breeding is called animal husbandry

👉 Milk as Food

- ✓ Cows and buffaloes are the main source of milk in India.
- ✓ In hills and plains, milk from goats and sheep is also consumed as food.
- ✓ In some places, milk from camel is also used as food, though it is not very good to taste.
- ✓ Milk yielding animals are called milch animals or milch cattle or dairy animals, as they are linked with dairy.

👉 Flesh as Food

- ✓ The edible flesh is called meat.
- ✓ It excludes fish and poultry (birds).
- ✓ Flesh mainly comes from cattle such as goat and sheep.
- ✓ Generally, males of cattle are used for their flesh.
- ✓ Some cattle are specially bred for their meat.
- ✓ Crabs and prawns are also eaten for their flesh.

👉 Fish as Food

- ✓ Fish is highly nutritious since it is rich in easily digestible proteins and vitamin A and D.
- ✓ Fish is common in all the water bodies.
- ✓ Inland fish, found in ponds, lakes and rivers is the fresh water fish and the fish found in seas is the marine fish or saltwater fish.
- ✓ Rearing of fish on a large scale is called pisciculture.



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Sea Food

- ✓ There is more life in water than on land.
- ✓ Marine fish is the largest inhabitant of sea.
- ✓ Sea food also comes from animals like prawn, crab, oyster, squids, etc.
- ✓ Some of these animals like fish, prawn and oyster are reared.
- ✓ We get tonnes of fish from sea every day.
- ✓ Government has fishery department to take care of the water bodies and to develop fish culture by introducing breeds with better yield and less bones

QUESTION FROM CDA

Question 1. The same kind of plants grown on a large scale at a place is called

- (a) crop
- (b) preparation
- (c) float
- (d) nutrients, water

Question 2. The first step before growing crops is of the soil.

- (a) crop
- (b) preparation
- (c) float
- (d) nutrients, water

Question 3. Damaged seeds would on top of water.

- (a) crop
- (b) preparation
- (c) float
- (d) nutrients, water

Question 4. For growing a crop sufficient sunlight, and the soil are essential.

- (a) crop
- (b) preparation
- (c) float



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(d) nutrients, water

Question 5. Which is correct for Kharif crops?

- (a) Paddy
- (b) Wheat
- (c) Gram
- (d) Pea

Question 6. What is the basis of classification of crops in our country?

- (a) Season in which they harvested
- (b) Season in which they grow
- (c) Year in which they harvested
- (d) Year in which they grow

Question 7. kharif crops harvested in ?

- (a) January/February
- (b) September/October
- (c) March/April
- (d) throughout the year

Question 8. The crops which are grown in the summer season and harvested before rainy season are calledcrops

- (a) Jayad
- (b) Rainy
- (c) Rabi
- (d) kharif

Question 9. Moong and muskmelon are summer season crops.

- (a) Summer
- (b) Rainy
- (c) Rabi
- (d) kharif

Question 10. Why paddy cannot be grown in the summer season?

- (a) Summer Season is best for



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- (b) Requires less Sun light
- (c) Requires a lot of water
- (d)

Question 11. which tool used for tilling of soil.

- (a) Plough
- (b) Axe
- (c) Fork
- (d) Sickle

Question 12. What are crumbs?

- (a) big pieces of soil in ploughed fields
- (b) Extra water irrigation in fields
- (c) Crops ready for harvesting
- (d) Sprouts of crops

Question 13. Why should loose soil be levelled for ?

- (a) Plough
- (b) Axe
- (c) Fork
- (d) Sickle

Question 14. What is meant by sowing?

- (a) Watering Plants
- (b) Growing of Plants
- (c) Harvesting of plants
- (d) putting seeds in the soil.

Question 15. Name the farm machine used for harvesting and threshing both.

- (a) Plough
- (b) Combine
- (c) Tractor
- (d) Sickle

Question 16. What is meant by animal husbandry?

- (a) The study of the care of animals



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- (b) The study of the care of animals and plants
- (c) The study of the crops
- (d) The study of the care of husbands of animal

Question 17. Odd one out ?

- (a) Cow
- (b) Buffalo
- (c) Goat
- (d) Bull

Question 18. fish is also a rich source of

- (a) vitamin A
- (b) vitamin B
- (c) vitamin C
- (d) vitamin D

Question 19. What are weeds?

- (a) Mix crops in the field
- (b) Crop roatation
- (c) Unwanted plants in the fields
- (d) Fertilisers

Question 20. What happened when using fertilisers excessively.

- (a) Leaves of plants become yellow
- (b) Soil fertility is reduced.
- (c) unwanted plants grown
- (d) Nothing will happen

Question 21. Which is nature's ploughmen ?

- (a) Birds
- (b) Cow
- (c) Earthworm
- (d) Ringworm

Question 22. Manure are....

- (a) Inorganic
- (b) Natural
- (c) Man made
- (d) Very Costly



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Question 23. What is the correct sequence in farming

1. Preparation of soil, 2. Weeding, 3. Sowing, 4. Threshing

- (a) 2314
- (b) 1234
- (c) 1324
- (d) 1423

Question 24. Paddy can be grown in

- (a) summer season
- (b) autumn
- (c) rainy season
- (d) winter

Question 25. Wheat can be grown in

- (a) winter
- (b) rainy season
- (c) spring
- (d) summer

Question 26. Which of the following is a rabi crop?

- (a) Paddy
- (b) Maize
- (c) Mustard
- (d) Soyabean

Question 27. Loosening and turning of the soil is known as

- (a) tilling
- (b) broadcasting
- (c) transplantation
- (d) manuring

Question 28. Sowing the seeds manually is known as

- (a) ploughing
- (b) broadcasting
- (c) tilling
- (d) transplantation



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Question 29. The method of transferring seedlings from nursery to field is known as

- (a) broadcasting
- (b) transplantation
- (c) crop rotation
- (d) harvesting

Question 30. Leaving the agricultural land uncultivated for one or more seasons is known as

- (a) field fallow
- (b) crop rotation
- (c) manuring
- (d) threshing

Question 31. Chemical substances rich in specific nutrients are called

- (a) manures
- (b) fertilisers
- (c) pesticides
- (d) weedicides

Question 32. Chemicals which kill weeds are known as

- (a) fertilizers
- (b) pesticides
- (c) weedicides
- (d) none of these

Question 33. Cutting and gathering of crops after maturation is known as

- (a) harvesting
- (b) threshing
- (c) broadcasting
- (d) tilling