Important Questions for Class 9

Science

Chapter 12 -Improvement in Food Resources

Very Short Answer Type Questions **2 Marks**

1. What do we get from cereals, pulses, fruits and vegetables?

Ans: Cereals provide carbohydrates, pulses provide proteins, while fruits and vegetables provide vitamins and minerals.

2. What factors may be responsible for losses of grains during storage?

Ans: Both biotic and abiotic factors may be responsible for losses of grains during storage are:

- Humidity and temperature of the environment and moisture content of grains are the abiotic factors.
- Biotic factors include organisms such as rodents, bacteria, fungi, and some insects that feed on grains.

3. What are weeds? Give two examples.

Ans: Weeds are undesired plants that grow in fields. Common weeds include Amaranthus and Chenopodium.

4. What is crop rotation?

Ans: Crop rotation is the technique of alternately cultivating various crops in the same land in a pre-planned succession.

5. What are drones?

Ans: Drones are airborne devices that are used in agriculture to improve crop output and to track crop growth.

They assist farmers in developing agricultural field systems for using water, fertilisers, herbicides, and seeds. These tools have revolutionised agriculture by allowing farmers to save significant amounts of money while also increasing efficiency and profitability.

6. What is pasturage and how is it important?

Ans: Crop rotation is the practise of farming a variety of crops in a pre- determined order on the same piece of land.

7. What is a layer and a broiler? What are the differences between the two?

Ans: The egg-laying poultry bird is known as an egg layer, whereas the meat-producing poultry bird is known as a chicken or broiler.

Housing (shelter), food, and environmental requirements differ from layer requirements. Broiler feed is protein- and vitamin-rich, with an acceptable fat content.

8. Arrange the following statements in correct sequence of preparation of green manure

(a) Green plants are decomposed in soil

(b) Green plants are cultivated for preparing manure or crop plant parts are used

(c) Plants are ploughed and mixed into soil

(d) After decomposition it becomes green manure.

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(a) Green plants are decomposed in soil

(d) After decomposition it becomes green manure.

9. What are the benefits of poultry farming over cattle farming?

Ans: The advantages of chicken farming over cattle rearing include the following:

a) The amount of money required is little.

b) The amount of space required is minimal.

c) It is simple to maintain.

d) Returns are processed quickly.

10. Define inter – cropping Mention its advantages.

Ans:Intercropping is the practise of cultivating two or more crops on the same field in rows at the same time.

Added benefits –

1) Productivity is higher.

2) It saves space and time by farming two or more crops at the same time.

3) It aids in the preservation of soil fertility.

11. What are the advantages of organic farming?

Ans: Organic farming has the following advantages:

a) It does not disrupt the natural environment.

b) It preserves soil fertility.

c) Chemicals have no harmful impact on living organisms; d) Pollution of the air, water, and soil does not occur.

12. Differentiate between mixed cropping and Intercropping.

Ans: The difference between mixed cropping and intercropping are as follows:

Mixed Cropping	Inter-Cropping
Goal is to reduce the crop failure	Goal to boost productivity per square foot
Before sowing , component crop seeds are blended together.	Before sowing , component crop seeds are blended together.
Sowing do not take place in rows	Sowing is done in precise arrangement in rows

13. Give a difference between Rabi and kharif crops?

Ans: The difference between Rabi and Kharif crop are as follows:

Rabi Crop	Kharif crop
This crop is sown during the winter season.	The summer (kharif) season is when it is sown.
It necessitates a chilly, dry climate.	It necessitates a hot, humid atmosphere.

14. What is hybridization?

Ans: The crossing of genetically distinct plants is referred to as hybridization. In this strategy, two crop varieties are chosen, each with at least one desirable trait, such as high yield or disease resistance.

15. List the various methods of weed control.

Ans: Weed control methods include:

a) Mechanical means - Weeds are pulled out by hand or with the use of a khurpa (trowel) or a hoe.

b) Cultural approaches — cultural methods include seed bed preparation, timely seed sowing, intercropping, and appropriate rotation.

c) Chemical techniques — compounds such as 2,4,-D can be used to manage weeds.

16. What are the characteristic features of ideal shelters for cattle?

Ans: The following are characteristics of a shelter:

1) The animals are protected from rain, heat, and cold by a suitably roofed shed.

2) The shed's floor is slanted to make cleaning easier and to keep their sitting area dry.

3) A plan for safe drinking water is put in place.

4) Excreta disposal is properly arranged in the sheds.

17. What are the hazards of using fertilizers?

Ans: Effects of fertiliser application –

a) Impact on soil quality - fertiliser application leads to a loss of organic matter and a deterioration of soil structure.

b) Eutrophication - Excessive fertiliser application causes nitrate buildup in the soil.

Rain washes nitrates and phosphates into lakes, ponds, and rivers, where they encourage algae to develop excessively.

18. How do insect,pest damage crop plants?

Ans: Insect – pests cause damage to plants in the following ways:

a) They hacked away at the root, stem, and leaf.

b) They drink the sap from the cells of diverse plant components.

c) They eat the stems and fruits of plants.

d) They produce galls.

e) They devour grains that have been preserved.

Short Answer Type Questions **3 Marks**

1. How do biotic and abiotic factors affect crop production?

Ans: Living organisms such as honey bees and earthworms aid improve crop output, whereas pests (insects and rodents) and bacteria have a negative impact on crop production.

Climate conditions and nonliving natural resources such as soil, water, and air are examples of abiotic factors.They also have an impact on crop productivity, as favourable temperature, humidity, and mineral nutrition boost crop yield.

2. What are the desirable agronomic characteristics for crop improvements?

Ans: The following are desired agronomic traits for crop improvement:

(i) For cereal crops, dwarfness is a beneficial trait since it allows the plants to use fewer nutrients.

(ii) Tallness and profuse branching are ideal traits for fodder crops so that we can get more leaves to feed our animals.

3. What are macronutrients and why are they called macronutrients?

Ans: There are sixteen nutrients that are required for plant growth. Six of these thirteen nutrients are considered macronutrients since they are required in high amounts.

Nitrogen, phosphorus, potassium, calcium, magnesium, and sulphur are all macronutrients.

4. How do plants get nutrients?

Ans: Plants get their nutrients from the air, water, and soil.Nutrients supplied as a source Carbon in the air, oxygen in the air Hydrogen and oxygen are found in water.

Soil nitrogen, phosphorus, potassium, calcium, magnesium, sulphur, iron, manganese, boron, zinc, copper, molybdenum, chlorine, zinc, manganese,

5. Compare the use of manure and fertilizers in maintaining soil fertility.

Ans: The comparison between use of manure and fertilizers are as follows:

Manure	Fertilizers
It is made through the breakdown of animal excreta and plant waste	They are manufactured commercially in factories
It contains a lot of organic matter while also providing tiny amounts of nutrients to the soil	Provides components like nitrogen, phosphorous, and potassium

Helps to increase soil fertility	Assures soil fertility in terms of dose and timing.

6. Why should preventive measures and biological control methods be preferred for protecting crops?

Ans: It is likewise true for plants that prevention is preferable to treatment. Herbicides, weedicides, insecticides, pesticides, fungicides, and other chemicals are sprayed on the crop.

Because their excessive usage can injure crop plants and pollute the environment, careful seed bed preparation, timely crop sowing, intercropping, and crop rotation are also recommended.

7. Which method is commonly used for improving cattle breeds and why?

Ans: Cross breeding is a typical technique for developing cow breeds.

For instance, in dairy animals Exotic or foreign breeds (such as Jersey and Brown Swiss) are bred for lengthy lactation durations, whilst native breeds (such as RedSindhi and Sahiwal) are bred for disease resistance. The two can be crossed to produce animals with both desirable traits.

8. Discuss the implications of the following statement:

“It is interesting to note that poultry is India’s most efficient converter of low fibre food stuff(which is unfit for human consumption) into highly nutritious animal protein food.”

Ans: Under poultry the birds kept are fed on agricultural waste material and broken grains etc which are not useful for humans but those birds consuming such waste provide us with eggs and meat. It is highly nutritious animal protein food hence the statement made is quite appropriate.

9. What management practices are common in dairy and poultry farming?

Ans: Food requirements Proper cleaning and shelter facilities Protection from unfavourable climatic conditions and diseases are frequent management strategies in dairy and poultry farms. Protection against pests

10. What are the differences between broilers and layers and in their management?

Ans: Differences between broilers and layers are represented in the following table:

Broilers	Layers
Broiler chickens require vitamin-rich supplements, particularly vitamin A and K, for optimal development.	Broilers require different nutritional, environmental, and housing requirements than egg layers.
They consume a sufficient amount of protein and fat in their diet. They also require additional care and maintenance to enhance their survival probability.	In comparison to broilers, they don't consume a sufficient amount of protein and fat in their diet.
Broilers are bred to provide poultry meat.	Layers are bred to produce eggs.

11. How are fish obtained?

Ans: Fishes can be obtained in two ways.

1. Capture fishing: This is a method of collecting fish from natural sources (rivers, lakes, oceans).

2. Cultural fishery: This is also known as fish farming and involves the rearing and breeding of selected fish.

12. What are the advantages of composite fish culture?

Ans: The following are some of the benefits of composite fish culture:

In such systems, both indigenous and imported fish species can be utilised.

Food accessible in all regions of the water reservoir is exploited due to the non-competitive nature of selected species.

Increases the amount of fish in the water reservoir (intensive fish farming).

13. What are the desirable characters of bee varieties suitable for honey production?

Ans: Characteristics of bee types appropriate for honey production include:

Honey harvesting capacity is high. They have to be less stingy.

They should stay in a beehive for a long time and breed prolifically.

14. What is pasturage and how is it related to honey production?

Ans: Pasturage refers to the blooms that bees can collect nectar and pollen from. The pasturage determines the value or quality of honey. In addition, the type of flowers present will influence the honey's flavour.

15. For increasing production, what is common in poultry, fisheries and bee-keeping?

Ans: The following are steps that are commonly used in poultry, fisheries, and beekeeping to increase production:

- The best types and breeds are used. Food is supplied that is both nutritional and tasty.
- Cleanliness and hygienic conditions are maintained.

16. What are the benefits of cattle farming?

Ans: Cattle farming provides two advantages:

(i) Draught animals for farm labour (males), i.e. tilling, irrigation, and carting.

(ii) Milch animals (dairy animals) are females who produce milk.

17. How do storage grain losses occur?

Ans: Storage grain losses are caused by a variety of biotic and abiotic factors: biotic factors include insects, rodents, bacteria, fungi, and other organisms that feed on grains. Unfavorable humidity and temperature conditions are abiotic variables.

18. Why are manure and fertilizers used in fields?

Ans: Manure contributes to soil fertility by supplementing it with nutrients and organic materials. The majority of organic matter in manure aids in soil structure improvement.

Fertilizers are used to promote healthy vegetative growth (leaves, branches, and flowers) by supplying specific nutrients such as nitrogen, phosphorus, and potassium.

19. Define

(a) Pisciculture

Ans: Pisciculture is the large-scale rearing and management of fish.

(b) hatcheries

Ans: Hatcheries are nurseries where fish eggs or fish seed are placed in freshwater fisheries.

(c) swarming

Ans: Swarming is the process by which the new queen leaves the old hives and seeks out a new home for reproduction.

20. What is green manuring? Give examples of green manures.

Ans: Green manure is made from herbaceous plants that are cultivated, ploughed beneath, and mixed with the soil while they are still green. Green manuring is the process of ploughing green plants and combining them with the soil.

Sun hemp, cluster bean (guar), lentil (Masur), and cowpea are some of the plants utilised as green manure (Lobia).

21. Discuss the preventive measures for the storage of grains.

Ans: The preventive measures for the storage of grains are:

a) Drying - For grain storage, the moisture content of the grains should be decreased to less than 14 percent. This can be accomplished by drying in the sun and then drying in the shade.

b) Hygiene should be maintained - Godowns and stores should be cleaned regularly.

Remove any dirt, trash, webs, or debris from the previously kept grains. Waterproofing and sealing cracks and gaps in the walls, floor, and ceiling are essential. For storing food grains, new gunny bags should be used. The mouth of the gunny bag should be tightly sewn once it has been filled.

22. Name three basic scientific approaches for increasing yield of a crop.

Ans: Three scientific approaches for increasing yields of a crop are –

(i) Crop production management, which involves correct irrigation and fertiliser management, is one of three scientific methodologies for enhancing crop yields. Manure and fertilisers can be used to accomplish this. Crop rotation, intercropping, and mixed-cropping can all help with nutrient management.Plants require protection from weeds, insects, pests, and pathogens.

(ii) Crop protection management It can be accomplished through biological, chemical, or cultural methods.

(iii) Crop variety management: Crop variety can be enhanced by hybridization or transgenic techniques. It is possible to do so in order to get desired plant traits

23. What are the advantages of bee-keeping?

Ans: The following are some of the benefits of beekeeping:

a) It takes minimal investment and offers the farmer additional income.

b) In addition to honey, beekeeping produces wax, royal jelly, and bee venom, among other things.

c) Cross pollination is aided by bees.

24. Differentiate between capture fishing, aquaculture and mariculture.

Ans: The difference between capture fishing, aquaculture and mariculture is:

a) Capture fishing - Capture fishing is the process of obtaining fish from bodies of water such as rivers, seas, and oceAns:

b) Aquaculture - Aquaculture is the cultivation of aquatic creatures in fresh or saltwater.

c) Mariculture - Mariculture is the cultivation of marine fish.

25. List the steps to be taken to prevent and control diseases in animals.

Ans: The following steps should be followed to control diseases:

a) Providing adequate shelter.

b) Maintaining animal hygiene and disposing of dead animals and animal wastes properly.

c) Disease screening of animals on a regular basis, with unhealthy animals being isolated immediately.

d) Following the advice of a veterinary practitioner, providing a proper diet and appropriate medications.

e) Handling of all animal products and by product in a sanitary manner.

26. Give the difference between manures and fertilizers.

Ans: The difference between manure and fertilizers are as follows:

Manure	Fertilizers
Manure is an organic natural substance that is formed when living materials decompose.	Fertilizers are inorganic compounds that are produced in factories.
Large amounts of organic materials can be found in manure.	There is no organic substance present in fertilizers.
Manures aren't nutrient-specific at all	Fertilizers have nutrient-specific properties

27. What are the components of cattle feed?

Ans: Roughage and concentrates are present in cattle feed in the form of hay and grain, as well as a large amount of water.

a)Roughage — Roughage is made up of coarse and fibrous components with poor nutrient content; animals acquire roughage from hay (cereal straw) and grain, respectively, as well as a lot of water.

b)Cotton seeds, oilseeds, oilcakes, and cereal grains like gramme and bajra are high in one or more nutrients (such as carbohydrate, lipids, proteins, minerals, and vitamins) and low in fibres. Cattle are fed green fodder in the winter, primarily Berseem and Lucerne, and maize, bajra, jowar, and dry fodder in the other seasons.

28. Define the following

(i) White revolution

Ans: The term "white revolution" refers to the increased production of milk. It required the utilisation of upgraded high-milk-yielding mulch animal crossbreeds.

(ii) Silver revolution

Ans: The term "silver revolution" refers to a massive increase in egg output.

(iii) blue revolution.

Ans: The term "blue revolution" refers to an increase in fish production.

29. What is green manuring? Give an example of green manures?

Ans: Green manure is made from herbaceous plants that have been cultivated, ploughed under, and mixed with the soil while they are still green. Green manuring is the term for this process.

- Sun hemp, cluster bean (guar), lentil (maser), and cowpea are some of the plants utilised as green manure (Berseem)

30. What are the main practices involved in keeping animals or animal husbandry?

Ans: Animal husbandry day involves the following main practises.

a) Breeding - This is done to get animals with specific traits. Animals with high milk yields and meat yields can be developed through breeding.

b) Feeding – This is the study of the right food (called feed), as well as the mode and timing of feeding of various animals.

c) Weeding - This is the process of eliminating animals that are not economically viable.

31. Name the abiotic and biotic factors which affect stored grains and how?

Ans: Insects, birds, rodents, mites, fungi, and bacteria are examples of biotic forces.

a)Moisture, temperature, and the storage container's material are all abiotic variables. As a result of the aforementioned conditions, cereal grains become infested with insects and microorganisms.

b) Quality deterioration

c) Weight reduction.

b) Poor grain germination potential

e) Produce discoloration

32. What is the need for crop improvement? What are the desirable agronomic characteristics for crop improvement?

Ans: Crop enhancement entails creating superior plants with the following characteristics:

a) High-yielding

b) Varieties with higher-quality produce.

b) Disease-resistant cultivars

d) Plants have beneficial agronomic traits, such as

(i) Dwarfness is required in cereals, which consumes less nutrients.

(ii) Plants for fodder crops that are tall and have a lot of branching.

33. Define

(i) Draught breeds

Ans: Draught cattle, sometimes known as bullocks, are cattle that are employed for labour.

(ii) Dual purpose breeds

Ans: Dual-purpose breeds are those that have females for milk and men for work.

(iii) Dairy breeds

Ans: Dairy animals are breeds that are solely used for milk production.

34. What are the symptoms of diseased animals?

Ans: The symptoms are as follows:

a) The animal stops eating and becomes lethargic, looks exhausted, and remains isolated as a result of the condition.

b) The animal shivers as its body temperature rises.

b) The animal produces an excessive amount of saliva, which hangs from its mouth at times.

d) The animal excretes a mixture of loose dung and colourful urine.

e) The animal's mouth and ears droop.

Long Answer Type Questions **5 Marks**

1. Explain any one method of crop production which ensures high yield.

Ans: Various cropping patterns can be very effective in ensuring good output. The following cropping patterns should be mentioned:

1. a combination of crops

2. cropping in between

3. Rotation of crops

Mixed cropping: is the practise of cultivating two or more crops on the same plot of land at the same time, such as wheat + gramme, wheat + mustard, or groundnut + sunflower.

- This lowers the risk and provides some protection in the event that one of the crops fails.

Intercropping: is the practise of planting two or more crops on the same field in a certain arrangement (as shown below).

- The crops are chosen to have distinct nutrient requirements. This promotes optimal nutrient use while also preventing pests and diseases from spreading to all plants belonging to a single crop in a field, such as soya bean + maize or finger millet.

Crop rotation: is the planting of various crops on a plot of land in a pre-determined order succession.

- Crop rotation is done for various crop combinations depending on the period.
- The crop to be planted after one harvest is determined by the availability of moisture and irrigation infrastructure.
- Two or three crops can be planted in a year with good harvests if crop rotation is done appropriately.

2. What are the advantages of intercropping and crop rotation?

Ans: **Advantages of inter -cropping and crop rotation:**

- This way,both crops can give better returns.Crop rotation, when done correctly, allows for the replenishment of soil nutrients without the need of fertilisers.
- For example, growing leguminous plants following a non-leguminous crop in the same field ensures nitrogen enrichment.
- As a result, any decline in soil fertility is avoided.

- Intercropping makes the most use of the nutrients available. It also prevents pests and illnesses from spreading to all plants of a single crop in a field.

3. What is genetic manipulation? How is it useful in agricultural practices?

Ans: Genetic manipulation is the introduction of a gene that confers a desired trait, resulting in genetically engineered crops.

Agricultural methods benefit from genetic modification by creating varieties with larger yields, better quality, shorter maturity periods, and more tolerance to unfavourable environmental circumstances. Some of the other practices are:

- High yielding pest resistant.
- resistant to environmental stress don't need fertilizers for good growth
- All these features help not only to improve quality and quantity of products but also reduce chances of environmental pollution.

4. How do good animal husbandry practices benefit farmers?

Ans: Animal husbandry refers to the scientific management of livestock animals. It covers a wide range of topics.Feeding, breeding, and disease control are all factors to consider.

The demand for milk, eggs, and meat is increasing as the population grows and living standards rise. In addition, the increased awareness of the importance of adequate animal treatment has imposed new restrictions on livestock production .As a result, cattle output must be improved. Good animal husbandry practises, such as providing good food and controlling infections in cattle, can contribute to this progress, allowing farmers to receive higher quality and quantity goods.

5. How do you differentiate between capture fishing, mariculture and aquaculture?

Ans: The difference between capture fishing, mariculture and aquaculture is as follows:

Capture fishing	Mariculture	Aquaculture
It's a technique for catching fish from natural sources.	Marine culture fisheries are culture fisheries that are maintained in marine water bodies only for the purpose of rearing and breeding marine creatures such as fish and prawns.	These cultural fisheries are kept in fresh or saltwater, and they allow for the raising and production of a higher number of aquatic creatures.

6. What is genetic manipulation? How is it useful in agricultural practices?

Ans: Genetic manipulation is a technique for improving the genetic make-up of crop plants in order to achieve desired features.

Genetic manipulation's benefits

1) It creates high-yielding cultivars.

2) It creates disease-resistant strains.

3) It creates pest-resistant cultivars.

4) It creates cultivars with a quick maturation time and a consistent maturity.

5) creates higher-quality variations.