Improvement in Food Resources

Periodic Test

Q.1. How do plants get nutrients?

Answer: A nutrient is a substance of chemical nature. It is needed by organisms for the purpose of carrying out activities of life. Green plants capture solar energy using chlorophyll in their leaves. Photosynthesis is the chemical process by which producers capture light energy from the sun and absorb nutrients and water through their roots. Therefore, plants need to get fluids and nutrients from the ground up through their stems to different parts that are above ground level.

The chemical equation is:

$$6CO_2 + 6H_2O + \text{light energy} \downarrow C_6H_{12}O_6 + 6O_2$$

[carbon dioxide + water + sunlight yields sugar (food) and oxygen]

Nutrients act as second energy source for plants growth. They obtain these 16 essential macronutrients and micronutrients from air, water, and soil. Hydrogen, oxygen and carbon are consumed from air and water. Major portion of nutrients come from soil.

Q.2. How are fish obtained?

Answer: There are two ways of obtaining fishes:

(a) Capture fishing it is the process of obtaining fish from natural resources like river, lake or seas. In this the yield depends upon the environmental condition and fish habitat.

(b) Culture fishery: it is the practice of farming fishes. Farming can be done in both freshwater ecosystem (which includes river water, pond water) and marine ecosystem. In this method the cultivation of selected fishes are carried out in confined areas with utmost care to get maximum yield.

Q.3. What is vermicompost?

Answer: The organic matter that has been decomposed (broken-down by biological processes) in a process is called composting. And when this process is carried done by various species of worms then it is referred to as vermicompost. These worms increase the time of compost and ensures good quality of compost.

Q.4. What causes storage grain losses?

Answer: The factors responsible for the loss of grains during storage are:

(a) Biotic factors- They are the living creatures like insects, rodents, mites, birds and bacteria. They feed on the various types of grains. A pest causes damage to agriculture by feeding on crops. For example, boll weevils a pest on cotton.

(b) Abiotic factors- They are non-living chemical and physical things. They occur due to moisture (present in food grains), sunlight, temperature, wind and water they all have adverse effect of food grains leading to their loss. Some natural disasters such as droughts and floods are unpredictable. Their occurrence has a great impact on crops sometimes, destroying the entire crop.

These factors act on stored grains and degradation, poor germination, discoloration, etc.

Q.5. What are milch and draught animals?

Answer:

MILCH ANIMALS	DROUGHT ANIMALS
These are those animals that yield milk.	These are those heavy animals that are used for labor in the field.
They help in milk production.	They help in ploughing, irrigation, tilling etc.
For example: Cow, Goat etc.	For example: donkey, bulls etc.

Q.6. Give Reasons for the following:

Why micronutrients and macronutrients are called so? What role do they play?

Answer: Plant concentrations of essential elements may exceed or fall from the critical concentration which is the minimum concentrations required for growth. Macro nutrients are those elements that are needed by plants in larger amounts than critical concentration.

Example of Macronutrients: N, K, Ca, Mg, P, and S

They are required for Micronutrients are opposite of macronutrients. Micronutrients are those which are required in small quantities than critical concentration to ensure normal growth and reproduction of a plant.

Example of micronutrients: Cl, Fe, B, Mn, Zn, Cu, Mo, and Ni

Q.7. Give Reasons for the following:

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

Answer: Preventive measures and biological control methods should be preferred for protecting crops because excessive use of chemicals can cause harm to the environment. These chemicals are also poisonous for plants and animals. These chemicals are absorbed by the plants along with water and minerals from the soil and are taken by aquatic plants and animals as well. Preventive method are those which can be done beforehand to prevent the loss. These measures include proper soil and seed preparation, timely sowing of seeds, intercropping and mixed cropping, usage of disease resistant crops, etc.

On the other hand, biological control methods involve the use of bio-pesticides that are less toxic for the environment as they are made from organic material. Therefore, both preventive measures and biological control methods are considered eco-friendly methods of crop protection.

Q.8. Give Reasons for the following:

Genetic manipulation is considered as useful agricultural practice. Why?

Answer: Genetic manipulation is a process of transferring (genes) characters that are desirable from one plant to another plant. In simple words it can see as changing the normal gene arrangement according to your desirable needs.

When the gene for a particular character is introduced in a plant cell, a transgenic plant is produced. These transgenic plants have characters of both the old and the newly introduced genes or just the new gene.

For example, let us assume there is a wild plant that produces small fruits. If a gene responsible for a larger fruit size is introduced in this plant, this plant becomes transgenic, and starts producing larger fruits. Similarly, genes for higher yield, disease resistance, etc. can be introduced in any desired plant. Therefore, gene manipulation plays an important role in agricultural practices. It helps in improving crop variety. It ensures food security and insect resistant crops. It also improves the quality and yield of crops.

Q.9. Give Reasons for the following:

Why are manure and fertilizers used in fields?

Answer: Manures and fertilizers are required in fields to enrich the soil with the desirable nutrients. Manure helps in enriching the soil with organic matter and nutrients as it is prepared by the decomposition of animal and plant wastes. This improves the fertility and structure of the soil. This involves increasing the water holding capacity in sandy soil.

For example: Green manure- it act as organic fertilizers by nourishing plants with nitrogen and phosphorous which helps in enhancing growth of plants.

On the other hand, fertilizers ensure a healthy growth and development in plants. They are a good source of macronutrients like nitrogen, phosphorus, and potassium. To get a correct amount of yield, it is advised to use a balanced combination of manures and fertilizers in the soil.

Their excessive use also reduces soil fertility. Hence, fertilizers are considered good for only short-term use.

Q.10. Give Reasons for the following:

Why good animal husbandry practices are considered very beneficial for the farmers?

Answer: Animal husbandry is concerned with the care and management of livestock. It includes proper feeding, breeding, health care, and housing of animals. Hence to satisfy the increasing demands of people for animal food, animal husbandry is essential.

● Good animal husbandry practices increase the production of animal products. This increases the profit of farmers.

● Also, it keeps their animal stocks healthy. Hence, time and effort need not be spent on nursing the sick animals and preventing other animals from falling sick.

● Improved animal husbandry practices help to meet the demands for milk, meat and eggs.

● The animal-based farming practices are undertaken by farmers along with agriculture as mixed farming. Draught animals are engaged in agricultural fields for labour work. **For example:** using bulls for plugging in the field.

Q.11. What are the differences between broilers and layers and in their management?

Answer:

BROILERS	LAYERS
They are raised for obtaining meat.	They are reared for egg laying production.
They require maintenance of temperature and hygienic conditions to grow fast and low mortality.	They require enough space and lighting during the growth and laying periods.
Their daily food requirement is rich in protein and vitamin A and K. The fat content also should be adequate.	They require restricted and calculated feed with vitamins, minerals and micronutrients.
Example: Chicken raised for its meat.	Example: Chicken raised for producing eggs.

Q.12. Differentiate between Rabi and Kharif season crops.

Answer:

KHARIF CROPS	RABI CROPS
Are planted in the start of rainy season.	Are planted during winter season.
They need huge amount of water	They need fewer amounts of water.
Grow in hot and wet conditions	Grow in cold and dry conditions
Are harvested around October/November.	Are harvested in March/April.
For example: Paddy, black gram, cotton.	For example: Wheat, gram and pea.

Q.13. Differentiate between capture fishing, mariculture and aquaculture.

Answer:

CAPTURE FISHING	MARICULTURE	AQUACULTURE
Catching fish from natural resources	The culture of marine fishes for commercial use.	Cultivation of aquatic products under controlled conditions.
It is undertaken in both in land and marine waters like pond, lake, sea, estuary etc.	is the branch of aquaculture which involves cultivation of marine organisms in the open ocean.	It involves all the fish products obtained from farming on both salt water and fresh water such as prawns, lobsters, fishes, crabs, etc

Q.14. Differentiate between manures and fertilizers.

Answer: In agricultural practices, instead of fertilizers, manures should be commonly employed because continuous use of fertilizers in an area can destroy soil fertility as the organic matter in the soil is not replenished. It also affects various microorganisms present in the soil which are beneficial for maintaining soil quality. Disrupting the nature of soil will hamper in the production of crop.

BASIS FOR COMPA-RISON	MANURE	FERTILIZER
Meaning	Manure is a natural material, obtained by decaying plant and animal waste, that can applied to the soil to enhance its fertility.	Fertilizer is a human-made or natural substance, which can be added to the soil to improve its fertility and increase the productivity.
Preparation	Prepared in fields	Prepared in factories
Humus	It provides humus to the soil.	It does not provide humus to the soil.
Nutrient	Comparatively less rich in plant nutrients.	Rich in plant nutrients.
Absorption	Slowly absorbed by plants	Quickly absorbed by plants
Cost	It is economical	It is costly
Side- effect	There is no side - effect, in fact it improves the physical condition of soil.	It causes harm to the living organism present in the soil.

Q.15. Differentiate between micronutrients and macronutrients.

Answer:

MICRONUTRIENTS	MACRONUTRIENTS
Micronutrients are required in small quantities	Macronutrients are required in large quantities.
They are present in low concentration in plant.	They are present in excessive concentration in plant.
They are also called trace elements	Also called as major elements
Examples: Fe, Mn, Cu, Zn, Mo, B, Cl, and Ni.	Examples: C, H, O, N,P, K, Ca, S, and Mg.
All micronutrients are minerals.	Majority of macronutrients are minerals, some are non-minerals (C, H and O).
They can be toxic for the plant if present excess in the cell than the required quantity.	They are usually not toxic to the cell if they are present in relatively higher concentration than the normal level.

Q.16. How do biotic and abiotic factors affect crop production?

Answer: A variety of biotic factors such as pests, nematodes, diseases, etc. can reduce the net crop production. A pest causes damage to agriculture by feeding on crops. For example, boll weevil is a pest on cotton. It attacks the cotton crop, thereby reducing its yield. Weeds also reduce crop productivity by competing with the main crop for nutrients, light, and space.

Similarly, abiotic factors such as salinity, temperature, etc. affect the net crop production. Some natural calamities such as droughts and floods are unpredictable. Their occurrence has a great impact on crops sometimes, destroying the entire crop.

These are the two main types of factors also responsible for the loss of grains during storage. Both the factors lead to the spoilage and wastage of seeds and grains.

Q.17. Compare the use of manure and fertilizers in maintaining soil fertility.

Answer: Manures is prepared by the decomposition of animal and plant wastes.

i. Manure helps in enriching soil with nutrients and organic matter and increasing soil fertility.

ii. The bulk of organic matter in manure helps in improving the soil structure. This involves increasing the water holding capacity in sandy soil.

iii. Manures contain substances which act as stimulants for seed germination and plant growth.

On the other hand, fertilizers are mostly inorganic compounds prepared from various chemicals.

i. Their excessive use also reduces soil fertility. Continuous use of fertilizers in an area can destroy soil fertility as the organic matter in the soil is not replenished.

ii. It also affects various microorganisms present in the soil which are beneficial for maintaining soil quality. Disrupting the nature of soil will hamper in the production of crop. Hence, fertilizers are considered good for only short-term use.

Q.18. What are the advantages of intercropping and crop-rotation?

Answer: Inter-cropping and crop rotation both play an important role in increasing the yield of crops.

Intercropping is a farming method that involves planting or growing more than one crop at the same time and on the same piece of land.

1. Intercropping gives higher income per unit area than sole cropping.

2. It acts as an insurance against failure of crop in abnormal year.

3. Intercrops maintain soil fertility as the nutrient uptake is made from both layers.

4. Reduce soil runoff.

Crop rotation determines the successive arrangement of different crops in a particular order over several years in the same growing space. This process helps maintain nutrients in the soil, reduce soil erosion, and prevents plant diseases and pests. It also helps in controlling weeds and controls the growth of pathogens and pests in crops.

Explanation- From the word itself it determines the use of different crops one by one on single land so that the nutrients consumed by 1st crop are not required for 2nd crop and will give time to the soil for replenishing itself with those exhausted and the remaining nutrients will help in the growth of 2nd crop.

Q.19 A. What is composting?

Answer: Composting is a natural process that turns organic material into a dark rich substance. This substance is called compost or humus. Composting is nature's way of recycling. Composting biodegrades organic waste like food waste, manure, leaves, grass trimmings, paper, wood, feathers, crop residue etc., and turn it into a valuable organic fertilizer.

This natural biological process, carried out under controlled aerobic conditions (requires oxygen). In this process, various microorganisms, including bacteria and fungi, break down organic matter into simpler substances. The effectiveness of the composting process is dependent upon the environmental conditions present within the composting system i.e. oxygen, temperature, moisture, material disturbance, organic matter and the size and activity of microbial populations.

Q.19 B. How organic farming is done?

Answer: Organic farming is an environment friendly farming system. Organic means use of only eco-friendly products to keep the plants healthy. It will maintain the plant hygiene and also increase the yield without any harmful effect.

It is practice of raising unpolluted crops through the use of manures, bio-fertilizers and bio-pesticides with healthy cropping systems that provide optimum nutrients to plants and keep the pests as well as weeds under control.

In organic farming can be done in ways like:

● Controlling chemicals usage- There is little or no use of chemical fertilizers, pesticides and herbicides. Therefore, there is no toxicity due to pollution of crop plants, soil, water or air.

● Soil management- Bio-fertilizers include the nitrogen fixing organism and mineral solubilizing bacteria.

● Weed management- Bio-pesticides are organism or their extracts which repel or kill weeds, insects and other pests.

● Crop diversity- Healthy cropping includes mixed cropping, intercropping and crop rotation.

Q.20. What is the composition of normal animal feed? What kind of feed promotes the health and milk output of dairy animals?

Answer: Animal feed needs to meet the requirements of the animal. For all animals it must contain dry matter, various groups of nutrients, minerals and trace-elements and should not be mixed with dirt and soil nor contain poisonous ingredients (for example pesticides or herbicides).

Generally, animals must have a ration containing:

● Energy (from carbohydrates and fats) to maintain the body and produce products (milk, meat, work). The carbohydrates and fats not needed for production are converted to fat and stored in the body.

● Protein is needed for body building (growth) and maintenance as well as milk production. Without protein there would be no body weight gain nor milk production. Excess protein is converted to urea and fat

● Minerals help in body building as well as in biological regulation of growth and reproduction. They are also a major source of nutrients in milk.

● Vitamins help regulate the biological processes in the body and become a source of nutrients in milk

● Water helps all over in body building, heat regulation, biological processes as well as a large constituent of milk production as well as eggs.

The cattle feed consists of two component- roughage and concentrate.

(a) Roughage: It largely contains fibers such as green fodder, silage, hay and legumes like berseem, cowpea.

(b) Concentrates: It is low in fibers but contains relatively high proteins and other nutrients. It includes cotton seeds, oilseeds, oats, barley, gram and their by-products like wheat, beans and molasses etc.

Cattle need balanced rations containing all nutrients in proportionate amounts. Besides such nutritious food material, certain feed additives containing micronutrients promote the health and milk output of dairy animals.

Comprehensive Exercises (MCQ)

Q.1. Find out the correct sentence:

(i) Hybridization means crossing between genetically dissimilar plants

(ii) Cross between two varieties is called as interspecific hybridization

(iii) Introducing genes of desired character into a plant gives genetically modified crop

(iv) Cross between plants of two species is called as inter-varietal hybridization

A. (i) and (iii)

B. (ii) and (iv)

C. (ii) and (iii)

D. (iii) and (iv)

Answer: The cross performed between two plants belonging to different species (having different characters) is referred to as hybridization as both the plants are heterozygous for two different traits. Hence (i) is correct.

Cross between two varieties is called either Inter -varietal hybridization (if varieties are different) or Intra-varietal hybridization (if varieties are same). Hence statement (ii) is wrong.

Introducing genes of desired character into a plant gives genetically modified crop by modifying the DNA of plant. The aim is to introduce a new trait to the plant which does not occur naturally in the species. Hence statement (iii) is correct.

Cross between plants of two species is called as inter-specific hybridization. Hence statement (iv) is wrong.

Q.2. Weeds affect the crop plants by:

A. Killing of plants in field before they grow

B. Dominating the plants to grow

C. Competing for various resources of crops (plants) causing low availability of nutrients

D. All of the above

Answer: Weeds compete for food, space and light. They take up the plants nutrients and reduce the growth of the crop. They may sometimes produce toxic substances which may interfere with crop growth. During harvesting, weeds get mixed up with crop to lower down its quality. Hence statement C is correct.

Q.3. Which one of the following species of honey bee is an Italian species?

A. Apis dorsata

B. Apis florae

C. Apis cerana indica

D. Apis mellifera

Answer: An Italian bee called Apis mellifera is a species of honey bee. It has been used to increase the yield of honey because:

a) They have high honey collection capacity.

b) They can stay in a beehive for much longer period and show higher rate of breeding

Q.4. Find out the correct sentence about manure:

(i) Manure contains large quantities of organic matter and small quantities of nutrients.

(ii) It increases the water holding capacity of sandy soil.

(iii) It helps in draining out of excess of water from clayey soil

(iv) Its excessive use pollutes environment because it is made of animal excretory waste.

A. (i) and (iii)

B. (i) and (ii)

C. (ii) and (iii)

D. (iii) and (iv)

Answer: Statement (i) and (ii) are correct because manure is prepared from the breakdown of plant and animal waste products. Hence it is rich in organic matter. Manures contribute to the fertility of the soil by adding organic matter and some essential nutrients like N, P and K which helps in enhancing growth of plants.

It helps in increasing soil structure by keeping the soil intact and this also decreases soil erosion. It helps in regulating water holding capacity of soil so that water is not lost from the plant soil early by evaporation.

Manures make the clayey soil aerated because of their small pores and increase the water holding capacity of the sandy soil due to their large pore size. Hence statement (iii) is false and (ii) is correct.

Since manure is made from animal excretory waste it is completely organic and replenish the soil with its nutrient content, Hence statement (iv) is wrong.

Q.5. The major groups of activities for improving crop yields can be classified as:

A. Crop variety improvement

B. Crop production improvement

C. Crop protection management

D. All of these

Answer: For A- Depends on finding a crop variety that can give a good yield. Variety can be selected by breeding for various useful desirable characters.

For B- crop production depends upon many factors such as:

(i) Understanding how crops grow and develop.

(ii) Effect of various nutrients, climate, and water on growth of the plant.

(iii) Modification and management of each factor for increasing the yield of the crop

For C- Protecting the crops from weeds, harmful pesticides etc.

Hence all three points are the major groups of activities for improving crop yields.

Q.6. The shorter duration crops help the farmer:

A. By making variety economical

B. By allowing farmers to grow multiple rounds of crops in a year

C. By getting uniform maturity and easy harvesting

D. Both (A) and (B).

Answer: The short maturity period of crops helps farmers in multiple rounds of cultivation in less expenditure during a short period. Thus, overall variety improvement makes the situation more profitable. They can grow different crops several times in a year instead of just growing a single crop throughout the year. Hence D is correct.

Q.7. The way of incorporating desirable characters into crop varieties is by:

A. Crop-rotation

B. Hybridisation

C. Intercropping

D. Multiple cropping

Answer: Hybridization is a method of developing new traits by combining the characters of two different varieties of crops. It is a way of crop-variety improvement. Hence B is correct.

Rest others, crop-rotation, intercropping and multiple cropping are different farming methods for crop production management.

Q.8. The changes brought by biotic and abiotic factors in the food grains which are not stored properly includes:

A. Degradation in quality and discolouration of produce

B. Loss is weight

C. Poor germinability

D. All of these

Answer: During the storage of grains, various biotic factors such as insects, rodents, mites, fungi, bacteria, etc. and various abiotic factors such as inappropriate moisture, temperature, lack of sunlight, flood, etc. are responsible for losses of grains. These factors act on stored grains and result in degradation, poor germinability, discoloration, etc. Both the factors lead to the spoilage and wastage of seeds and grains. Hence all of them are correct.

Q.9. Cattle husbandry is done for the following purposes:

(i) Milk production

(ii) Agricultural work

(iii) Meat production

(iv) Egg production

A. (i), (ii) and (iii)

B. (ii), (iii) and (iv)

C. (iii) and (iv)

D. (i) and (iv)

Answer: Cattle farming is one of the methods of animal husbandry that is most beneficial for farmers.

Using this method:

● Better breeds of draught animals can be produced. Such draught animals are engaged in agricultural fields for labour work such as carting, irrigation, tilling, etc.

● Good quality and quantity of milk can be produced.

● They are raised for obtaining meat.

Hence A is correct.

Since cattle cannot lay eggs, they directly give birth to their offspring's hence they cannot be used for egg production; instead poultry farming is done to produce eggs.

Q.10. Which of the following are Indian cattle?

(i) Bos indicus

(ii) Bos domestica

(iii) Bos bubalis

(iv) Bos vulgaris

A. (i) and (iii)

B. (i) and (ii)

C. (ii) and (iii)

D. (iii) and (iv)

Answer: Bos indicus is the scientific name of zebu cattle and Bos bubalis is the scientific name of buffalo. These are of Indian origin, hence called indigenous breeds.

Indigenous breeds (local breed of a region) of cattle are known for:

(a) Its disease resistance,

(b) Good milk yield around 1200-1900 per lactation.

(c) Despite being lethargic and slow they can also be used for road and field works.

Q.11. Which of the following are exotic breeds?

(i) Prawn

(ii) Jersey

(iii) Brown Swiss

(iv) Jersey Swiss

A. (i) and (iii)

B. (ii) and (iii)

C. (i) and (iv)

D. (ii) and (iv)

Answer: Jersey and Brown swiss are the two exotic breeds. They provide higher yield of milk, whereas prawn is a marine crustacean. Hence B is correct.

Q.12. Poultry farming is undertaken to raise following:

(i) Egg production

(ii) Feather production

(iii) Chicken meat

(iv) Milk production

A. (i) and (iii)

B. (i) and (ii)

C. (ii) and (iii)

D. (iii) and (iv)

Answer: In poultry farming, domestic fowls are raised to produce eggs and chicken. In poultry the improved varieties are developed for improving the quality and quantity of chicks. Improved varieties will have the desirable characteristics of both good yield and better nutrition, whereas cattle's farming is done for milk production. Hence A is correct.

Q.13. The oil-yielding plant among the following is:

A. Lentil

B. Cauliflower

C. China rose

D. Sunflower

Answer: Sunflower is a oil yielding plant. It belongs to Asteraceae family. Its scientific name is Heliantheae. Lentils are edible legume whereas China rose is a flower. Hence D is correct.

Q.14. Which one is not a source of carbohydrate?

A. Rice

B. Sorghum

C. Cream

D. Millets

Answer: Millets are a group of highly variable small-seeded grasses, widely grown around the world as cereal crops or grains for fodder and human food. Cereals like wheat, rice, maize, barley, sorghum, etc., are rich source of carbohydrates. Hence cream is not a source of carbohydrates; it is a source of fat. Hence C is correct.

Q.15. Which one of the following nutrients is not available in fertilisers?

A. Iron

B. Calcium

C. Nitrogen

D. Phosphorus

Answer: Calcium, nitrogen and phosphorus are macronutrients which are required by plants in higher quantity for its proper growth and reproduction. But Iron is a micronutrient, meaning it is required by plants in lesser amounts than primary or secondary macronutrients.

Q.16. Which one of the following fish variety is a surface feeder?

A. Rohu

B. Catlas

C. Mrigals

D. Common carps

Answer: Surface feeders mean an organism, usually a fish, which takes its food from the air/water interface, or feeds just below the water surface. This feeds on zooplanktons. For example: catlas.

Rohu are column feeders which are omnivores (flesh eaters). Mrigals and common carps are omnivorous which feed both on zooplanktons and other marine animals and hence are called bottom feeders.

Hence correct answer is B.

Q.17. Which of the following is raised as food for the live-stock?

A. Millets

B. Sorghum

C. Lentil

D. Oats

Answer: Oat is grown as livestock feed in the form of grain, silage, hay and pasture. Oats have adequate soluble carbohydrates to make good silage. The oat grain is a good source of protein, starch, fats and vitamins. The fat content of oats increases the energy content of animals. Oats prevent allergies and do not irritate the intestine. Since oats can be rations when fed in mixtures with other grains. While millets, sorghum and lentils are usually grown for hay or silage often as a short-season emergency hay crop.

Q.18. Find out the wrong statement from the following:

A. White revolution is meant for increase in milk production

B. Blue revolution is meant for increase in fish production

C. Increasing food production without compromising with environmental quality is called as sustainable agriculture

D. None of the above

Answer: White Revolution focused on dairy products. It was initiated to assist rural dairy farmers to develop as it created a grid where the farmers and consumers from across the world were connected directly. It leads to more production of milk.

Blue revolution refers to the remarkable emergence of aquaculture as an important and highly productive agricultural activity.

And sustainable agriculture is the production of food or other plant or animal products using farming techniques that protect the environment, public health, human communities, and animal welfare. Hence all the statements are correct.

Q.19. To solve the food problem of the country, which among the following is necessary?

A. Increased production and storage of food grains

B. Easy access of people to the food grains

C. People should have money to purchase the grains

D. All of the above

Answer: All of these are required for solving the food problem of the country. Production can be increases by various cropping patterns and animal husbandry practices. Food should be available to every part of the country at cheaper rates, then only each and every person will be able to feed itself. Hence all of these points are correct.

Q.20. The preventive and control measures which are used before grains are stored for future use includes:

A. Proper cleaning of the produce before storage

B. Proper drying of the produce first in sunlight and then in shade

C. Fumigation using chemicals that can kill pests

D. All of these

Answer: Proper cleaning is required so that fungus or other bacteria's don't grow on stored grains. Complete drying is necessary to prevent moisture from spoiling the grains. Fume forming pesticides also aid in food grain storage protection.

Q.21. Poultry fowl are susceptible to the following pathogens:

A. Viruses

B. Bacteria

C. Fungi

D. All of the above

Answer: Viruses, bacteria and fungi causing diseases like flu, E. coli infections, aspergillosis can infect chickens. These diseases can easy spread in an open environment and can easily infect poultry animals.

Comprehensive Exercises (T/F)

Q.1. Write true or false for the following statements:

Animal feed includes vitamins and proteins mainly.

Answer: False

Animal feed includes carbohydrates, proteins, fats various groups of nutrients, minerals and trace-elements. They all are required for proper growth of animals. For example: The cattle feed consists of two component- roughage and concentrate.

(c) Roughage: It largely contains fibres such as green fodder, silage, hay and legumes like berseem, cowpea.

(d) Concentrates: It is low in fibres but contains relatively high proteins and other nutrients. It includes cotton seeds, oilseeds, oats, barley, gram and their by-products like wheat, beans and molasses etc.

Q.2. Write true or false for the following statements:

A healthy animal feeds regularly and has a abnormal posture.

Answer: False

A healthy animal feeds regularly cannot have an abnormal posture. Th posture disturbance is a result of genetic manipulation, during breeding.

Q.3. Write true or false for the following statements:

The level vitamins C and D is kept high in the poultry feeds.

Answer: False

Vitamins A and K are kept high in the poultry feeds. Vitamin A provide proper fertility and K provides good bone health in poultry animals.

Q.4. Write true or false for the following statements:

The housing, nutritional and environmental requirements of broilers are similar to those of egg layers.

Answer: False

Broilers require maintenance of temperature and hygienic conditions to grow fast and low mortality. Their daily food requirement is rich in protein and vitamin A and K. The fat content also should be adequate.

But Layers require enough space and lighting during the growth and laying periods. They require restricted and calculated feed with vitamins, minerals and micronutrients.

Q.5. Write true or false for the following statements:

The ration (daily food requirement) for broilers is carbohydrate rich with adequate minerals.

Answer: False

Broilers are reared for the meat production. Their daily food requirement is rich in protein and vitamin A and K. The fat content also should be adequate. The carbohydrate content is very low.

Q.6. Write true or false for the following statements:

Pomphret, mackerel, tuna, sardines and Bombay duck are the popular freshwater fish varieties.

Answer: False

Freshwater fish are those that spend some or all of their lives in fresh water, such as rivers and lakes. Here are no freshwater fishes.

Pomphret and Bombay duck are found in oceans. Mackerel are mostly found along the coast lines. Tuna and sardines is a salt water fish.

Q.7. Write true or false for the following statements:

Bhetki, mullets, pearl spots and prawns are some of marine fish of high economic value.

Answer: True

They are the heaviest fishes with large body sizes. They have the healthy nutrients in them if consumed in a human diet.

Q.8. Write true or false for the following statements:

Fresh water resources include canals, ponds, reservoirs and rivers.

Answer: True

Freshwater fish are those that spend some or all of their lives in fresh water, such as rivers and lakes. Here are no freshwater fishes. Example: rohu, catla etc.

Q.9. Write true or false for the following statements:

The value of quality of honey depends upon the pasturage, or the flowers available to the bees for nectar and pollen collection.

Answer: True

The more the availability of flowers to bees, more will be the nectar and pollen collection by them and hence more honey and the health of flower determines the quality of honey.

Q.10. Write true or false for the following statements:

The kind of flowers available determines the taste of honey.

Answer: True

If the flowers are healthy then the nectar collected by bees from then will produce good quality of honey.