

ONLINE CLASS-SUBJECT-SCIENCE

CLASS-7

CH-1-Crop Production and Management

1.Fill in the blanks:-

- a)The process of loosening of the soil is called _____
- b)The crops sown in the winter are called _____
- c)Wheat and mustard are _____ crops.
- d)_____ provides a lot of humus to soil.
- e)_____ and _____ tools can be used in ploughing or tilling.
- f)_____ and _____ organisms are called the friends of farmers which help in loosening the soil and adding humus to the soil.
- g)_____ irrigation is a boon in regions where availability of water is poor.
- h)The artificial application of water to the soil is called_____.
- i)Large scale storage of grains is done in _____, _____ and _____.
- j)_____ sows the seeds uniformly at proper distance and depths.

2.Name the following

- a)The plant nutrients found in fertilizers_____
- b)Any three sources of irrigation _____
- c)Process of cutting and gathering of crops_____
- d)The method of separating the grains from the chaff_____
- e)The type of irrigation in which wastage of water is less_____
- f)Two weeding tools_____
- g)Two traditional methods of irrigation_____
- h)A machine used for harvesting as well as threshing_____
- i)A chemical that is used to destroy weeds_____

j) Process of placing seeds in the soil _____

3. Differentiate between

a) Natural and chemical fertilizers b) Manure and Fertilizers

4. Answer the following questions:-

a) Describe the modern methods of irrigation.

b) What are the advantages of using manure?

c) Describe how nitrogen gets fixed in nature.

d) Describe how soil is prepared before sowing seeds.

e) What are weeds? How can these be removed?

Answer

1.a) Ploughing

b) Rabi crops

c) Rabi crops

d) Manure

e) Plough, Hoe

f) Earthworms and microbes

g) Drip irrigation

h) Irrigation

i) Jute bags, metallic bins and Granaries

j) Seed drill

2.a) Nitrogen, Phosphorus and potassium

b) Groundwater, Surface water, Drainage ponds

c) Harvesting

d)Wind winnowing

e)Drip irrigation

f)Garden cultivator,Oscillating hoe

g)Moat,Chain pump

h)Combine harvester

i)herbicides

j)sowing

3.a) Natural Fertilisers

Chemical Fertilisers

i) These are obtained from plants and Animals.

ii)They are not rich in absorbable nutrients that can taken in by plants.

iii)They increase humus in the soil.

iv)Manure,compost and bark of neem are example of natural fertilizers.

i) These are produced in factories

ii)They are rich in nutrients that can be easily absorbed by the plants.

iii)They do not increase humus in the soil.

iv)Urea,Potash and NPK are example of chemical fertilizers.

b) Manure

Fertilizers

a)Manure is a natural substances. It is obtained by the decomposition Of animal waste and plant residue.

b)A manure contains small amount essential plant nutrient.

c)A manure adds a great amount of organic matter in the form of humus

a)Fertilizer is a human made substances .It is inorganic salt or Organic composition.

b)Fertlizers are very rich in plant nutrients.

c)A Fertilizer does not add any humus to the soil.

in the soil.

d)A manure is the cheap and is prepared in rural homes or field.

d)A fertilizer is costly and is Prepared in factories.

Ans-4a)Crop require water at regular intervals of time for proper growth and development.This supply the water to the crops at regular intervals is known as irrigation.

Modern irrigation system use reservoirs,tanks,and wells to supply water for crops.Reservoirs include aquifers,basins that collect snowmelt,lakes and basins created by dam.Canals or pipelines carry the water from reservoirs to field.

The modern method of irrigation include

i)Sprinkler system:- Sprinklers have perpendicular pipes with rotating nozzles.This system involves pumping water under pressure and spraying it over the crops like rain.This helps in the even distribution of water on the crops.

ii)Drip System:-It involves the use of pipes with every small holes.These holes deliver water drop by drop at the base of each plant.This is the best irrigation system in areas where there is water scarcity.

b)Manure is an organic substances which can be obtained by the decomposition of plants and animal wastes.For example,leaves dry grasses and other plant parts mixed with cow dung from an essential manure.

The advantages of manure are as follows:-

a)These are good source of macronutrients.

b)It enhances the water holding capacity in the soil.

c)It improve the soil texture.

d)It improves the physical properties of the soil and aerates the soil.

e)It help in killing weeds and pests.

f)It does not cause water pollution when it gets mixed with water.

C)The process of converting nitrogen gas of the atmosphere or air into compounds of nitrogen is called nitrogen fixation.

The nitrogen gas is the free nitrogen whereas nitrogen compounds are said to be fixed.

The nitrogen gas of atmosphere can be fixed

i)By certain nitrogen fixing bacteria present in the soil

ii)By Rhizobium bacteria present in the root nodules of leguminous plants.

iii)By blue green algae

iv)By lightning

The nitrogen fixing Rhizobium bacteria lives in the root nodules of leguminous plants.,Some nitrogen fixing bacteria live freely in the soil whereas other nitrogen fixing bacteria live in the root nodules of leguminous plants.

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

ii)Sowing:- After preparation of soil it is ready for sowing of seeds.The healthy and clean seeds should be selected.The sowing is done by seed drills and funnel shaped tools.Seeds drills are the modern instruments which sow the seeds at proper depth and propr distance.

e)Undesirable plants which grow along with the crop called weeds.

The process of removing weeds from the agricultural field is called weeding.

Thesee the methods can be used to remove weeds from the agricultural weeds.

i)Tilling the soil before sowing the seeds help in uprooting weeds and preventing their growth.

ii)Weeds can br removed physically by uprooting them or cutting them close to the ground.

iii)Physical removal of weeds is done by using Trowel,harrow or a seed drill.

iv)Chemical called weedicides can also be used to destroy weeds.

v)Weedicides kill only the weeds and they do not harm the crop plant.

CLASS-6

CH-1 Nutrition in plants- worksheet

1.Write two examples of each of the following:-

a)Insectivorous plants-

b)Modes of nutrition-

c)Autotrophs-

d)Parasitic plants-

2.Write one words for the following:-

a)The green pigment in leaves-

b)The modes of nutrition in which both the organisms benefit each other-

c)Structure that carry water and minerals from the roots to the leaves of the plants.

d)The plants that obtain their nutrition from dead and decayin plants and animals.

3.Differentiate between:

a)Autotrophs and heterotrophs

b)insectivorous plants and parasitic plants

c)Xylem and Phloem

4.Answer the following questions:-

a)What is Photosynthesis?Write the reaction that takes place during photosynthesis.

b)How does Saprophyte digest its food?

c)Discuss the different types of heterotrophic nutrition in plants.Give two example of each type.

d)What are symbiotic plants?Explain the symbiotic relationship with the help of example.

e)How does the Cuscuta plant derive its nutrition?

Answer

Ans 1.a)Venus fytrap,Pitcher plant

b) Autotrophs,heterotrophs

c) Algae,Phytoplankton

d) Mistletoe,Rafflesia arnoldii

Ans-2a)Chlorophyll

b)Symbiotic Nutrition

c)Xylem

d) Saprophytes

Ans-3a) Autotrophs

i) An organism that is able to form nutritional organic substances from simple inorganic substances such as carbon dioxide.

ii) Produce Their own food for energy

iii) Example-Plants, algae.

Heterotrophs

i) Heterotrophs can not produce organic compounds from inorganic sources and therefore rely on

Consuming other organism in the food chain.

ii) They eat other organisms to get protein and energy.

lii) Herbivores, omnivores and carnivores.

3 b)

Insectivorous Plants

i) An insectivorous plant ingests insects for its nutrition.

ii) These plants have specially designed

leaves. when any insect lands on its

leaf, it closes itself and opens only

after absorbing nutrition from it.

iii) Example-Venus Flytrap

3.C)

Xylem

Parasitic Plants

ei) A parasitic plant obtains its

nutrition by attaching itself to other plants and taking nutrition from them.

ii) The roots of these plants penetrate

into the stem tissue of the host, maintain a connection with water and food transporting tissue

iii) Example-Cuscuta Plant

Phloem

i)The term derived from a Greek word

Xylon means Wood.

ii)composed of vessels,tracheids,parenchyma and fibres.

iii)conduct water and minerals

iv)can provide mechanical support.

v)Xylem is the dead tissues at maturity but no cell contents.

i)The term derived from a Greek word phloios meaning bark.

ii)consists mainly of living cells

iii)conduct food materials.

iv)cannot provide mechanical support.

v)Phloem is the living tissue but not with the nucleus.

Ans-4a)Photosynthesis is the process by which green plants and some other organisms use sunlight to synthesize nutrients from carbon dioxide and water. Photosynthesis in plants generally involves the green pigment chlorophyll and generates oxygen as a by product.

The three event that occur during the process of photosynthesis are

i)Absorption of light energy by chlorophyll

ii)Conservation of light energy to chemical energy and splitting of water molecules into hydrogen and oxygen.

iii)Reduction of carbon dioxide to carbohydrates.

Ans-4 b) Saprophytes such as fungi and mushroom lack chlorophyll and hence cannot prepare their food.They

Obtain nutrients from dead and decaying matter.The Saprophytes secrete digestive juices on dead and decaying matter and convert it into a solution.In this way,they digest their own food and derive nutrients from it.

Ans-4 c) Heterotrophic Nutrition is a type of nutrition in which organisms depend upon other organisms for food to survive . Heterotrophic nutrition are of four types are as follows.

i)Saprophytic ii)Parasitic iii)Insectivorous iv)Symbiotic

i)Saprophytic-The mode of nutrition in which an organism obtain nutrients from dead and decaying organic matter is called Saprophytic nutrition. Example- Rhizopus (bread mould), Yeast.

ii)Parasitic Nutrition- This mode of nutrition is the characteristic of parasites.The parasites live on of inside the body of their hosts.so ,the parasites are dependent either wholly or partially on the host for nutrition. Example- mosquito,lice.

iii)Insectivorous Nutrition- Insectivorous plants are plants that derive some of their nutrients from trapping and consuming animals or Protozoan.They appear adapted to grow in places where the soil is thin or poor in nutrients,especially nitrogen,such as acidic bogs and rock outcroppings.

Example of Insectivorous plants- Pitcher plant,Venus fytrap.

iv)Symbiotic nutrition- Symbiotic nutrition is the relationship between two or more organisms in which they share their nutrition and shelter .Example- Rhizobium living in the root nodules of leguminous plant such as pea, groundnut ., Lichens.

Ans-4 d) This is the process Involving interaction between two different organisms living in close physical association.Symbiotic plants or the process of symbiosis is when two plants live closely together in harmony of one kind or another.Example of symbiotic plants- Psilotum and bryophytes.

There are four different types of symbiotic relationship : mutualism, Commensalism and Parasitism.

i)Mutualism:- A mutualistic relationship is when two organisms of different species “work together” each benefiting from the relationship.Example –Oxpecker and zebra or rhinos-In this relationship ,the Oxpecker (a bird) lives on the zebra or rhino,sustaining itself by eating all of the bugs and parasites on the animal.,The bee and the flower, The spider crab and the algae.

ii)Commensalism:- Commensalism is a symbiotic relationship in which one species benefis while the other species is not affected. Example- Goby fish live on other sea animals,changing color to blend in with the host,thus gaining protection from predators..,

iii)Parasitism – Parasitism is a symbiotic relationship in which one species (the Parasite)benefits while the other species (the host)is harmed.The parasite lives on or in the body of the host.Example- Tapeworm are segmented flatworms that attach themselves to the inside of the intestines of animals such as cows,pigs and humans.

Ans-4 e)Cuscuta is a plant having no chlorophyll and we know that chlorophyll is responsible for food

Preparation in plants. This is why Cuscuta can not make his own food..Cuscuta depends upon other plant and adopt a way of getting way called Parasitism.Cuscuta turns around host plant and start getting food from the host plant by making haustorial connection.

CLASS-5

Ch-1- sources of food

1. Tick the correct options.

i) In which of the following plants, roots are eaten as food by humans?

a) Sugercane () b) Radish () c) Mustard () d) Banana ()

ii) Which of the following animals is a carnivore?

a) Deer () b) Crow () c) Hyena () d) Falcon ()

iii) Which one of the following is not a function of food?

a) Providing energy () b) Protecting from diseases () c) Protecting other lifeforms ()

d) Growth and repair of our body ()

iv) Which of the following is not a consumer?

a) Lion () b) Deer () c) Tree () d) Human being ()

v) Which of the following groups of living beings include microbes?

a) Producers () b) Scavengers () c) Decomposers () d) Carnivores ()

2. State whether the following statements are true or false.

a) Without decomposers, our surrounding will clean and free from dead remains.

b) A food chain always start with a plant.

c) Herbivores have sharp and pointed teeth.

d) A producer cannot make its own food.

e) Scavengers eat the remains of a dead animal, which are left behind after the carnivores have fed on it.

3. Name the following:-

a) Name three flowers which are eaten as food.

b) Name some animal products that we eat as food.

c) Give some example of decomposers.

d) Give three example of Scavengers.

e) Give three example of Parasites.

4. Answer the following questions:-

a) Define the following terms.

i) Nutrients ii) Omnivores iii) Consumers iv) Food chain

b) Explain the classification of animals on the basis of their food habits. Define any two of them.

c) How do we get honey? What all nutrients does honey have?

d) What is the difference between the teeth of a herbivore and a carnivore?

ANSWER

Ans-1. a. ii b. iv c. iii d. i e. iii

Ans-2. a) False b. True c. False d. False e. True

Ans-3a) Marigold, Pansies and Honeysuckle

b) chicken produce eggs, cow gives milk, Fish gives us cod liver oil which is rich in vitamin A.

c) Decomposer include bacteria and fungi.

d) Hyenas, vulture and Raccoon.

e) Leeches , lice, tapeworm and roundworm.

Ans-4a i) Nutrients are molecules in food that all organisms need to make energy, grow, develop, and reproduce and maintain life. Tomatoes contain a lot of nutrients, among them vitamins C and B complex and the minerals iron and potassium. Nutrients are digested and then broken down into basic parts to be used by the organisms.

ii) Omnivores- An omnivore is an animal that has the ability to eat and survive on both plant and animal matter. Obtaining energy and nutrients from plant and animal matter, Omnivores digest Carbohydrates, protein, fat and fiber and metabolize the nutrients and energy of the sources absorbed.

iii) Consumer- Consumer is a category that belongs within the food chain of an ecosystem. It refers predominantly to animals. Consumers are unable to make their own energy and instead rely on the consumption and digestion of producers or other consumers, or both to survive.

iv) Food Chain- A food chain is a linear network of links in a food web starting from producer organisms and ending at apex predator species, detritivores or decomposer species. A food chain also shows how the

organisms are related with each other by the food they eat. Each level of food chain represents a different trophic level.

Ans-4.b) Animals are living things, so they need to eat food. We classify animals into three groups: Herbivores, Carnivores and omnivores .

i) Herbivores:- Herbivores animal eat plants and plant products only. Cow, deer and goats are the example of herbivorous animals. The digestive system of herbivores is capable of digesting a large amount of plant material. They have broad, blunt teeth which are suitable for pulling plants off the ground and chewing them.

ii) Carnivores- Carnivores eat the flesh of other animals. Lion , tigers snakes, eagles and spiders are some carnivorous animals. Carnivores animal have sharp and pointed teeth to tear the flesh of other animals. They also have sharp claws and powerful jaws to tear and eat flesh.

Ans-4c) Honey starts as flower nectar collected by bees, which gets broken down into simple sugars stored inside the honeycomb. The design of the honeycomb and constant fanning of the bees wings causes evaporation, creating sweet liquid honey.

Honey have Calories, Carbohydrates, Potassium and Protein.

Ans-4d) Herbivores teeth are used for cutting , gnawing and biting while Carnivores teeth are sharper and more suited to catching, killing and tearing the prey.

The incisors of herbivores are sharp and are used mainly to cut, gnaw and bite. Gnawing herbivores have long chisel like incisors located in front of the skull and used for gnawing and scraping.

Carnivore teeth are extremely adapted to the dietary habit of carnivores. Their upper premolar 4 and lower molar 1 are carnassials teeth an used to cut the meat away from bone.

CLASS-4

CH-1-Growing Plants

1. Give one word answer for the following:-

- a)The seed part that contains food for the baby plant.
- b)The crops that are grown from November to April.
- c)The crops that are grown from June to October.
- d)The process in which the fruit explodes to disperse the seed.
- e)A plant that grows from a stem cutting.

2.State whether the following statements are true or false.

- a)Seeds are dispersed far away from the parent plant to ensure the survival of new plant.
- b)The seed coat does not protect the seed and its internal parts.
- c)A new potato plant can be grown from a potato with an eye.
- d)Step farming is mainly used in plains.
- e)Seeds need only air,water and warmth for germination.

3.Answer the following questions-

a)Define the following terms.

i)Agriculture ii)Crops iii)Terrace farming iv)Germination

b)Distinguish between rabi and kharif crops.Give two example of each.

c)How can the grains protected from moisture?

d)Describe the various ways in which seeds get dispersed.Give two example of plants showing each mode of seed dispersal.

e)Explain the various steps of crop production.

f)How can one grow a new lant from different parts of a plant?Explain with examples.

g)What is seed dispersal?Why it is essential?

h)Explain the different stages of germination.

ANSWER

Ans-1.a.Cotyledons b.Rabi crops c.Kharif crops d.Seed dispersal e.Herbaceous plants

Ans-2.a)True b.False c.True d.False e.True

Ans-3.a i) Agriculture:- Agriculture is the process of farming,including cultivation of the soil for the growing of crops and rearing of animals to provide food,wool and other products.The plants of the same kind that are

grown in an area over a period of time are called crops. The area in which a crop is grown is known as a farm .

ii) Crops:- A crop is a plant or animal product that can be grown and harvested extensively for profit and subsistence. The plants of the same kind that are grown in an area over a period of time are called crops. The area in which a crop is grown is known as a farm .

iii) Terrace farming:- Terrace farming is the method of growing crops on sides of hills or mountains by planting on graduated terraces built into the slope.

iv) Germination:- The process by which a seed changes into a seedling in the presence of the right amount of air, water and sunlight is known as germination.

Ans-b) Rabi crops are sown at the end of monsoon and harvested before the advent of the summer season. Example- wheat, gram, beans.

On the other hand Kharif cropping season starts with the onset of monsoon and ends when the rainy season is over. Example- Rice, maize, jowar, bajra.

c) The harvested grains must be protected from moisture because the presence of moisture may become a favourable condition for the growth of various microorganisms like bacteria, fungi etc. and this will adversely affect the stored grains.

d) Seeds are scattered to different places away from the parent plant through the process known as seed dispersal.

The various ways in which seeds get dispersed are as follows:-

i) Dispersal by wind:- Seeds of some plants are light weight and are hairy and winged. These seeds can be easily carried away by wind. Example are dandelion, Cotton and madar.

ii) Dispersal by water:- Some plants have spongy seeds or seeds with fibrous outer covering, which helps these seeds stay afloat in water. Water carries these seeds to large distances. Example- Lotus (Spongy seeds) and coconut (fibrous outer covering on the seed).

iii) Dispersal by animals:- Animals usually eat fruits and throw away the seeds. Some fruits are eaten up by birds and animals along with the seeds. These seeds are then excreted in the dropping or faeces of these animals and birds. Some seeds have hook, spines or hair, which cling to the body of animals and these seeds then get carried away from the parent plant. Example- Xanthium (hook) and spear grass (spines).

iv) Dispersal by fruit explosion:- Poppy, pea, violet and bean fruits burst open on ripening. The seeds get scattered in all directions.

e) The steps involved in crop production are as follows:-

i) Ploughing in which the field is prepared for sowing seeds.

ii) Selection is done to select the best variety of seeds. The seeds are then sown.

iii) Replenishment of soil nutrients is done by adding manure and fertilizers to the soil so that the crops can give a high yield.

iv) Irrigation involves ensuring that the crop in the field gets enough water that is required for the crops to grow.

v) Protection of crops is done to prevent the crops from getting damaged because of any natural cause or because of insects.

vi) Harvesting is done once the crops are fully grown. During this step the crops are cut and bundled.

vii) Storage of crops is done so that they can later be sold or consumed.

f) The different parts of the plants from which a new plant can grow are the following:-

i) From roots:- Some plants store food in their roots, so the new plants can grow from the roots of these plants. For example- Carrot, radish, beetroot, turnip.

ii) From stem:- Some plants like potato have buds called eyes on their surface. A bud can grow into a new plant. Some plants like rose, hibiscus and money plant can grow a new plant with their stem cutting.

iii) From leaves:- Some leaves like Bryophyllum have buds on their margins when these leaves fall down on a moist soil the bud can grow into a new plant.

g) The process by which seeds are scattered away from the mother plant is called dispersal.

h) The process by which the seed grows into a new plant is called germination.

i) When the seed gets all necessary things like air, water, warmth, space,

