

14. Economic Importance of Plants and Animals

Exercise Questions

1. Question

Which of the following plants is not a grain?

- A. Wheat
- B. Rice
- C. Barley
- D. Gram

Answer

A graminaceous plant is one which produces grains. The grains are a very important source of carbohydrates.

Whereas, wheat, rice, and barley are all grain-producing plants while Gram is a pulse.

2. Question

Which part of plants is timber?

- A. Primary phloem
- B. Secondary phloem
- C. Primary xylem
- D. Secondary xylem

Answer

Secondary xylem consists of larger-sized vessels and tracheas'. The cell walls of a secondary xylem are normally thickened by lignin deposition, which provides excellent mechanical support to the plant. This thickened deposition is wood of the plant which is used for making timber. Hence that is why secondary xylem is the correct answer.

3. Question

Which part of opium is used as medicine?

- A. Root

- B. Stem
- C. Flower
- D. Fruit

Answer

Despite its misuse Opium is a very useful compound. They are useful for preventing heart-related disease but taken in limited quantity and with a prescription. And Fruit of the opium is used for these medicinal purpose. That is why (d) is the correct answer.

4. Question

State the tree of Rajasthan :

- A. Prosopis cineraria
- B. Prosopis chailensis
- C. Acacia Senegal
- D. Tocomela andulata

Answer

Amrita Devi of Khejarli village and her three young daughters laid down their lives to protect the sacred tree. This inspired other members of the community and a total of 363 people sacrificed their lives in coming days trying to save the trees by hugging them while the king's men chopped their bodies with axes. From that incident, Khejri or Prosopis cineraria is the state tree of Rajasthan.

5. Question

The vegetable obtained from flower :

- A. Potato
- B. Cauliflower
- C. Ladyfinger
- D. Tomato

Answer

(a) Potato is a vegetable which is obtained from the stem of its plant. It is also a good source of carbohydrates. And (c) ladyfinger is a technical fruit of a plant and it is picked from the plant. (d) Tomato is also a fruit which is counted as a vegetable. It is also plucked as fruits. While Cauliflower is a vegetable which is actually a flower of the plant. Hence that is why Cauliflower is a vegetable obtained from a flower.

6. Question

Honeybee rearing is called :

- A. Sericulture
- B. Silviculture
- C. Apiculture
- D. All of the above

Answer

Apiculture is the maintenance of bee colonies, generally in man-made hives, that is made by humans. Or in other words, it is maintenance/breeding of bees by humans for honey and other benefits. It is a very beneficial type of industry. As the bees collect honey but they do also help in the pollination of the plants.

7. Question

How Many types of bees are found in a beehive?

- A. One
- B. Two
- C. Three
- D. Four

Answer

The classification of the bees inside the hive is based upon their function/working inside the hive. Such that the bees are classified into 3 types inside a beehive. Or more precisely there are three castes of bees present inside a beehive. Which are:

- ★ Queen bee
- ★ Female worker bees,
- ★ Male drones bees.

8. Question

Silk can be obtained from :

- A. Yaks insect
- B. Pupa
- C. Cocoon

D. Egg

Answer

The production of the silk starts from the egg of silkworm. When caterpillar fully develops it stop eating food and start making a cocoon around him with his saliva. From that cocoon, after some time a silk moth will come out. But before that happens caterpillar is killed inside the cocoon. And then the silk is made from the cocoon which is made by the caterpillar around itself.

9. Question

The main yield of poultry is :

A. Egg

B. Wool

C. Milk

D. All of the above

Answer

Poultry is a part of animal husbandry. It is the industry of cultivation and rearing of birds for meat and eggs. The proteins from eggs is use for body building purposes and it is a very cheap and efficient source of protein that is why the egg is the main yield of poultry.

10. Question

Write the name of the grain which is grown in rabi crops.

Answer

Rabi crops are agricultural crops that are sown in winter and harvested in the spring. They are also known as winter crops because they are sown in winter. That is rabi crops are sown around mid-November when winter just begin. The grains which is grown in rabi crops are Wheat and Barley. These two crops are the major rabi crops. As wheat is eaten all over India which makes these crops more important.

11. Question

Write two improved varieties of wheat.

Answer

Wheat is a graminaceous plant which produces grains. The grains of wheat are a very important source of carbohydrates. Carbohydrates are used in the process of respiration by releasing energy.

Two improved varieties of wheat:

● Sona

- Sarbati

12. Question

Write the name of pulse which is richest in protein.

Answer

Pulses are a part of leguminosae plant family. They are a very rich source of protein. Examples of pulses are:

- Gram
- Red gram
- Pea
- Groundnut

In which the richest source of protein is Groundnut.

13. Question

Write names of two vegetables which are obtained from root and stem of the plant.

Answer

Vegetables are the main source of vitamins, minerals, and fibrous nutrients. They help very much in providing different nutrients to the body which are very essential. Vegetables can be obtained by different parts of the plants. Vegetables which are obtained from root and stem of the plant.

Roots	Stem
• Carrot	• potato
• Radish	• Taro roots

14. Question

What do you mean by timber wood?

Answer

Timber is produced from the wood and wood is the fibrous material that forms most of trunk or branches of a tree. Timber is the wood which is used for preparing furniture, boat house, gates etc. Example of timber plants is Sagwan(Teak), saal tree, etc.

15. Question

Write the scientific names of two medicinal plants.

Answer

Some plants have a natural chemical compound which is required for making medicine. Scientific names of such two medicinal plants:

Common name	Scientific name
• Aloe vera	• Aloe vera
• Arjuna	• Terminalia Arjuna

16. Question

Which is a state flower of Rajasthan?

Answer

Rohida or Tecomella (scientific name) is the state flower of Rajasthan. It is found on the Rohida tree that produces quality Timber and also the tree thrives very well on stabilized sand dunes, which experiences very extreme high temperature. Because of all these qualities, Rohida is the state flower of Rajasthan.

17. Question

Write the names of two indigenous (country) varieties of buffalo.

Answer

Dairy Industry is basically yielding buffaloes, cows, goats, for milk purposes. They ranch buffaloes for their domestic use as well as for economic purpose. Dairy is mostly a side business of farmers and villagers. India produces 53% of buffalo milk out of total world production.

Two indigenous (country) varieties of buffalo:- Murrah, Sushi

18. Question

Write the names of two product of apiculture.

Answer

Apiculture is maintenance/breeding of bees by humans for honey and other benefits. The apiculture is a very beneficial type of industry. The two products which we obtain from apiculture are:

★ Honey: Honey is a nutritious food, rich in energy and vitamins. It is also used as a carrier in ayurvedic medicines.

★ Beeswax: It is used in making pharmaceutical products as well as varnishes and paints.

19. Question

The silkworm is reared on the leaves of which tree?

Answer

A silkworm/ silk-worm-moth/ mulberry silk worm is an insect which produces silk of commercial importance. When the silkworm egg hatches, larva comes out of it which is called caterpillar. The caterpillar/silkworm is reared on the mulberry tree for a better quality of silk.

20. Question

Which water is considered more suitable for fishery?

Answer

Fishes are a very good source of proteins and minerals. Also, it is available nearly in every part of the country. Humans mainly rely on fish for eating purpose. Fishes are mostly cultivated in fresh water because it results in a good quantity of fishes produced.

21. Question

What do you mean by poultry?

Answer

Poultry is a part of animal husbandry. It is the industry of cultivation and rearing of birds for meat and eggs. The egg and meat provided by this industry are widely consumed all over India. This industry provides edible protein in large amount.

22. Question

Write the names of an Indian variety of sheep.

Answer

In India the sheep are reared at almost every part. Because India is majorly a village country. We have the majority of people working in the agriculture sector. Which is very good for the economy. Hence that is why India has sheep in almost its every part. Two types of Indian sheep are:- Marwadi and Patanwadi

23. Question

Write botanical names of two grain producing plants.

Answer

Graminaceous plant are those plants which produce grains. The grains are a very important source of carbohydrates. Example of grain producing plants are:

	Wheat	Rice
Botanical name	Triticum Aestivum	Orzya Sativa

24. Question

Write the names of four spice producing plants.

Answer

Spices are very important components of the food we eat. Without them, food is tasteless as well as not nutritious. Name of some spices and their plants/trees:

Spices	Plant by which spices are produced
• Black pepper	• Piper nigrum
• Red Chili	• Capsicum
• Olive	• Olive tree
• Turmeric	• Curcuma longa

25. Question

What is wood? Write the name of timber producing plant.

Answer

Wood is the hard fibrous material that forms the main substance of the trunk or branches of a tree or shrub, used for fuel or timber.

Timber is produced from the wood and wood is the fibrous material that form most of trunk or branches of a tree. Timber is the wood which is used for preparing furniture, boat house, gates etc.

Some timber producing tree are:

Timber producing Trees
• Sagwan
• Sal
• Sheesham
• Rohida
• Khejri Tree
• Deodar

26. Question

Write the scientific names of two plants of medicinal use.

Answer

Some plants have naturally those chemical compound which are required for making medicine, as the compound is naturally present in the plants they are less harmful than those chemically generated compounds. So scientific names of two plants of medicinal use is:

Common name	Scientific name
• Aloe vera	• Aloe vera
• Arjuna	• Terminalia Arjuna

27. Question

Write the name of two oil yielding plants.

Answer

Plants are also used for producing different types of oil. Oil can be produced from their flower, seeds, stem, etc. Two oil yielding plants are:

Plant Name	Oil name
• Sunflower plant	Sunflower oil
• Indian sandalwood	Sandalwood oil

28. Question

Why is animal husbandry important?

Answer

Animal Husbandry is the ranching of various animal for their meat, egg, milk, or any other beneficial raw material. Animal husbandry is generally a side business of almost every farmer of India. And it is very helping them economically. As you know that India is majorly an agriculture country. If our farmers are getting benefits from this, then these side business directly affect our economy. So, animal husbandry can boom India's Economy.

Nowadays animal husbandry is also becoming a large scale industry. Poultry, dairy, wool industry are examples of that.

29. Question

Explain the method of silviculture.

Answer

Silviculture is the theory and practice of controlling the establishment, composition, constitution, and growth of forests. Basically, it is growing of man-made forest, not a natural forest. It is also an art of growing and tending forest crops. In this process, The method is to grow a forest according to our need and requirement.

30. Question

Explain the names of common diseases of the hen.

Answer

Ranching of hens for meat and egg purposes is called poultry. But compared to any other animal hens are very likely to catch the disease. That is why they

require proper hygiene. Some common Hen's disease and their effect:

Disease	Effects
Fowl Pox	Their laying of eggs stops.
Botulism	Total body paralysis which does include their breathing.

To prevent such disease there are some points which should be considered:

- ★ They should be provided with hygienic habits.
- ★ They should be fed maize, barley, Bajra, wheat etc.

31. Question

Write the names of two Indian varieties of buffaloes and cows each.

Answer

Dairy Industry is basically yielding of buffaloes, cows, goats, for milk purposes. Dairy is mostly a type of side business of farmers and villagers. They ranch cows or buffaloes for their domestic use as well as for economic purpose. Some Animals and their high yielding varieties:

	<u>Animals</u>	
	<u>Buffaloes</u>	<u>Cow</u>
<u>Varieties</u>	Murrah	Girri
	Sushi	Sindh

32. Question

Write the names of two bees found in the beehive.

Answer

Apiculture is the maintenance/breeding of bees by humans for honey and other benefits. The main product of this industry is honey. There are 3 types of bees inside a beehive. Which are:

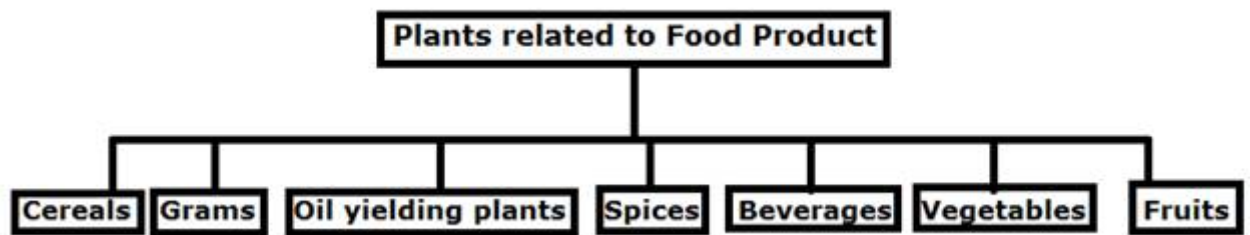
- ★ Queen bee: The queen is the only sexually mature female bee in the hive and all of the female worker bees and male drones are her offspring
- ★ Female worker bees: Also known as the worker bees. Most of the bees in a hive are worker bees.
- ★ Male drones bees: Drones bees are very big in size, at almost twice the size of a worker bee.

33. Question

Write a note on the plants related to food products.

Answer

Food is one of the most important factors which is required for living. No one can live without food, all living organism require food for their survival. And a big part of food comes from the plants or trees. So, there are a number of varieties of food provided from plants.



In the given picture there are all the products we get from plants.

★ **Cereals:-** They are the graminaceous plant that is those plants which produce grains. The grains are a very important source of carbohydrates. Carbohydrates are used in the process of respiration for releasing energy. Example of cereals are:

Wheat	Rice	Bajra
• Rabi crop	• Kharif crop	• Kharif crop
• Main source of food in Northern India	• Mainly consume in Southern India	• Parts which are dependent on rain only

★ **Pulses:** They are a part of leguminosae plant family. They are very rich source of protein. And that is why they are eaten all over India. Examples of pulses are:

- Gram: India is the largest producer of gram. It is a rabi crop.
- Red gram
- Pea
- Groundnut: It is the richest source of protein.
- Soya bean

★ **Oil Yielding Plants:** These are the types of plants which are used for producing different types of oil. Oil can be produced from their flower, seeds, stem, etc. These plants have parts which are made up of alcohols, ether, hydrocarbon or aldehydes, those parts are used for producing oils.

There are 3 types of oil which we can generate from these plants:

Edible Oils	Nonedible oil	Perfumed oil
• Use for eating purpose	• Use mainly for the Industrial purpose	• Use for producing a pleasant smell
• Ex: Sunflower oil	• Ex: Castor oil	• Ex: Sandal wood oil (Chandan)

★ **Spices:** Spices are a very important component of the food we eat. Without them, food is tasteless as well as not nutritious. There are very important nutrients present in these spices. Also, in the ancient period India is known for its spices. There are a wide variety of spices available in India. Some of them are :

- Black paper
- Red Chili
- Olive
- Turmeric

★ **Beverages:** Beverages are also very important component of food and health. There are many beverages we can obtain from the plant, which are very nutritious and are healthy for drinking purpose. Not like any other chemically made drink like soda. So for drinking purpose plants offer a very good choice like coffee or tea. Tea is prepared by leaves of its plant and coffee is prepared by roasted seeds.

★ **Vegetables:** Vegetables can be considered the most important part of our food. A meal without vegetables is not even a meal. Vegetables are the main source of vitamins, minerals, and fibrous nutrients. One cannot avoid vegetables and he should not avoid vegetables. They help very much in providing different nutrients to the body which are very essential. Vegetables can be obtained by different parts of the plants. Some of them with examples are:

Roots	Stem	Leaf	Flowers
• Carrot	• potato	• Spinach	• Cauliflower
• Radish	• Taro roots	• Methi	

★ **Fruits:** Fruits completes a balanced diet. They are a very rich source of nutrients. As most of the foods are eaten raw all the nutrients without getting destroy absorbed directly by the body. Actually, fruits are the result of fertilization in the ovary of plants. There are many fruits available some example:

- Mango
- Banana
- Apple (An apple a day keeps the doctor away)

- Orange.

34. Question

Enumerate about medical plants.

Answer

We need medicine in our day to day life as well as in times of emergency. There are a number of chemically made medicine available in the market. But some medicine is made from plants. Plants have naturally those chemical compound which is required for making medicine. The best part is as the compound is naturally present in the plants they are less harmful than those chemically generated compounds. So there is a various medicine which we can obtain from different parts of plants:

★ From stem:

- Turmeric: It has very powerful anti-inflammatory effects and is a very strong antioxidant.

- Garlic: It is highly nutritious and can control blood pressure.

★ From roots:

- Ashwagandha: It is an Ancient Medicinal Herb which can Reduce Blood Sugar and it has also some Anti-Cancer Properties.

- Safed Musli: It has also anti-inflammatory effects and in ancient India, it is used for the various medical purpose. Nowadays, it is also recommended for bodybuilding purpose.

★ From Bark:

- Quinine: Quinine is a compound which is used to kill the organism responsible for malaria. And it is of great use.

- Arjun/ Arjuna: Is an ancient medical compound, which is used for the treatment of disease like hypertension, and asthma.

★ From Leaf:

- Aloe vera: It is a medical compound which we are still using on a very large scale for skin related problem.

- Tulsi: Tulsi is a plant which is also devoted to the Hindus. It is used in Ayurvedic medical treatment of diabetes and it also relieves from fever.

★ From Fruits:

- Opium: Despite its misuse Opium is a very useful compound. They are useful for preventing heart-related disease but taken in limited quantity and with a prescription.

● Gooseberry: Gooseberry is completely an ayurvedic compound which has a major role in all nearly all ayurvedic medicines.

35. Question

Enumerate fiber producing and timber producing plants trees.

Answer

Fiber - One of the finest discover of humans. Which is:

- There are many types of fibers which are produced from plants as well as animals. And some of them are very expensive.
- Used in almost every part of the world has its own great importance.
- Discovered in ancient times, but still, nothing can replace it.
- It is also considered as one of the basic necessities of a human.
- As it is used for making clothes, ropes, sacs, etc.
- A product with that importance has its own economy. Which is flourishing every day.
- There are many plants parts which yield fiber. For example

Fiber	Scientific name	Uses
• Jute	Corchorus Capsularis	To make sacks and coarse cloth.
• Cotton	Gossypium Spp	Mainly to make clothes
• Sunn hemp	Crotolaria Juncea	Paper fiber
• Coconut	Cocos Nucifera	In manufacturing doormats, brushes and mattresses.

Timber: The three basic necessities of human life are food, clothes, and residence. The residence is as important as the other two. To make a house we use very different types of material, one of them is timber.

- Timber is the wood which is used for preparing furniture, boat house, gates etc. Without timber, our house will be incomplete.
- Timber is produced from the wood and wood is the fibrous material that forms most of trunk or branches of a tree.
- So as you know by now that without timber we will be not having a comfortable bed as well as protective doors.
- This much importance of timber developed a good market for it. And as the market start developing it increases illegal cutting of trees also. Which led to the various global problem on Earth.

- So, we must use timber carefully as it is a natural resource. Some timber producing tree are:

Timber providing trees	Benefits
• Sagwan	Its wood has a good resistance to moisture and water.
• Sal	Its wood has great hardness and durability.
• Sheesham	Its wood has a good natural resistance to decay.
• Rohida	Its wood is strong, tough and durable.
• Khejri Tree	It provides good quality wood.
• Deodar	Deodar wood is regarded as one of the strongest woods.

36. Question

Write a note on the dairy industry.

Answer

- Dairy is mostly a side business of farmers and villagers. They ranch cows or buffaloes for their domestic use as well as for economic purpose.
- The interesting fact is that India is number one in producing milk. India produces 53% of buffalo milk and 43% of cow milk out of total world production.
- This industry helps in improving India's Economic condition. Hence, the dairy industry looks small but contributes a very large proportion of the economy.
- Various milk product like ice cream, beauty products use the raw material (milk) and then process it for further production.
- One more importance of this industry is in health or nutrition sector.
- Milk can be processed further for making various products, like curd, butter, cream, ghee, etc. That is why this industry has so much importance.
- It can work as a small scale industry as well as large-scale industry.

Some Animals and their high yielding varieties:

	Animals		
	<u>Buffaloes</u>	<u>Cow</u>	<u>Goat</u>
<u>Varieties</u>	Murrah	Girri	Kashmiri
	Sushi	Sindh	Jamnपुरi

37. Question

Describe the classification of bees in apiculture. Write their important too.

Answer

Apiculture is the maintenance of bee colonies, generally in man-made hives, that is made by humans. Or in other words, it is maintenance/breeding of bees by humans for honey and other benefits.

The apiculture is a very beneficial type of industry. As the bees collect honey but they do also help in the pollination of the plants.

Pollination of the plants is the transfer of pollens from a male part of plants to its female part, which then initiates fertilization and production of seeds.

But as the sole purpose of apiculture is to collect honey, the main product of this industry is honey. Now the bees are classified into 3 types inside a beehive. Or more precisely there are three castes of bees present inside a beehive. Which are:

- Queen bee
- Female worker bees,
- Male drones bees.

★ **Queen Bee:** The queen is the only sexually mature female bee in the hive and all of the female worker bees and male drones are her offspring.

- A queen bee can lay around 1500-3000 eggs in her one breeding season.
- The queen is raised from a normal worker egg but is fed a larger amount of royal jelly/food than a normal worker bee.
- There are a number of chemicals which are produced by the queen bee which influences the hive, they are called "queen substances". One of these chemicals suppresses the development of ovaries in all the female worker bees in the hive and prevents them from laying eggs.

★ **Female worker bees:** Also known as the worker bees. Most of the bees in a hive are worker bees. The life of a worker bee may be as short as 6 weeks or it may live for 16 weeks.

Age of a worker bee decides their day to day task.

- In their early days i.e. when they are very young, they perform basic chores within the hive like cleaning empty brood cells and other housekeeping tasks.
- Later, they are in the middle of their lifespan they guard the entrance of the hive.
- But as they grew older they leave the hive daily, to forage for nectar, pollen, and water.

★ **Male drones bees:** Drones are very big in size, at almost twice the size of a worker bee. They have much larger eyes to better locate the queen during the mating flight.

They do not work, do not forage for pollen or nectar, and are unable to sting. They have no other known function than to mate with new queens.

38. Question

Describe different stages of a silkworm. How is silk produced by them?

Answer

Different life stages of a silkworm is shown in the picture. From an egg it converts into a caterpillar and then it forms a cocoon and from that, it changes into a silkworm/ silk moth.



In the below steps the production of silk, as well as different stages of a silkworm, is explained:-

- A silkworm/ silk-worm-moth/ mulberry silk worm is an insect which produces silk of commercial importance.
- The production of the silk starts from the egg of silkworm.
- When the egg hatches, larva comes out of it which is called caterpillar, which has salivary glands also called as silk glands.
- When caterpillar fully develops, its length increases by 5 times. When it fully develops it stop eating food and start making a cocoon around him with his saliva.
- It releases his saliva around him and covers itself completely with a cocoon which is made from its saliva.
- The saliva is basically liquid silk which dries up when it comes into contact with air.

- From that cocoon, after some time a silk moth will come out. But before that happens caterpillar is killed inside the cocoon.

- Afterward it is removed from the cocoon silk is obtained from it. An average cocoon forms 1000-1200 meters of silk.

So, in short, silk is made from the cocoon which is made by the caterpillar around itself. Hence, this is how silk is made from silkworms.

39. Question

Explain the fishery and poultry and their importance too.

Answer

Fishery: Humans cannot rely only on plants for nutrients. We need another source of food too. For which humans rear fishes.

- Fishes are a very good source of proteins and minerals. Also, it is available nearly in every part of the country.

- Humans rear fishes for many purposes other than food.

- For example, fishes are used in the aquarium for amusement, as well as fishes have medicinal uses too. Fish oil is one of them.

- But mainly humans rely on fish for eating purpose. There are many places in India where fishes are cultivated, some of them are Bihar and Odisha.

- By controlling temperature, light, oxygen, and flow of water better quantity of fish can be yield.

- Fishes are mostly cultivated in fresh water because it is considered better for rearing fishes.

- By providing better food like hay of wheat and grains we can improve the number of fishes.

Poultry:- Poultry is a part of animal husbandry. It is the industry of cultivation and rearing of birds for meat and eggs.

- This industry provides edible protein in a large amount, which has a very big market.

- The egg and meat provided by this industry are widely consumed all over India.

- The proteins from eggs are use for body building purposes, and all these factors make India in 5th position in the world in the production of eggs.

- There are some points which should be considered for ranching hens:

- ★ They should be provided with hygienic habits.

- ★ They should be fed maize, barley, Bajra, wheat etc.

★ There should be a good and healthy environment around them for better production of eggs.

★ They should have regular health checkups for prevention from deathly disease.

The animal husbandry can boom India's Economy, we just have to take care of all the animals well and treat them well.