

Maharashtra Board Solutions for Class 9- Science: Chapter 6- Classification of Plants

BOOK SOLUTIONS
CLASS 9
SCIENCE

CHAPTER 6
Classification of Plants

Maharashtra Board Solutions→









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Maharashtra Board Solutions for Class 9- Science: Chapter 6- Classification of Plants

Class 9: Science Chapter 6 solutions. Complete Class 9 Science Chapter 6 Notes.

Maharashtra Board Solutions for Class 9- Science: Chapter 6- Classification of Plants

Maharashtra Board 9th Science Chapter 6, Class 9 Science Chapter 6 solutions

1. Match the proper terms from columns A and C with the description in column B.

'A'	'B'	'C'
Thallophyta	Seeds are formed in fruits.	Fern
Bryophyta	No natural covering on seeds.	Cycas
Pteridophyta	These plants mainly grow in water.	Tamarind
Gymnosperms	These plants need water for reproduction.	Moss
Angiosperms	Tissues are present for conduction of water and food	Algae

2. Complete the sentences by filling in the blanks and explain those statements.

(angiosperms, gymnosperms, spore, Bryophyta, thallophyta, zygote)

- a. plants have soft and fiber-like body.
- b. is called the 'amphibian' of the plant kingdom.

Answer:

Bryophyta plant is called the 'amphibian' of the plant kingdom

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c. In pteridophytes, asexual reproduction occurs by formation and sexual reproduction occurs byformation.

Answer:

Spore, zygote: Pteridophyta plants show alteration of generation. One generation reproduces by spore-formation and the next generation reproduces sexually by zygote formation.

d. Male and female flowers of are borne on different sporophylls of the same plant.

Answer:

Gymnosperms bear their male and female flowers on different sporophylls of the same plant

3. Answer the following questions in your own words.

a. Write the characteristics of subkingdom Phanerogams.

Answer:

- Plants which have special structures for reproduction and produce seeds are called Phanerogams.
- In these plants, after the process of reproduction, seeds are formed which contain the embryo and stored food.
- During the germination of the seed, the stored food is used for the initial growth of the embryo.
- Depending upon whether seeds are enclosed in a fruit or not phanerogams are classified into gymnosperms and angiosperms.

b. Distinguish between monocots and dicots.

Answer:

	Dicots	Monocots
Seed	Two cotyledons	Single cotyledon
Root	Well developed, primary root (Taproot)	Fibrous roots

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Stem	Strong, hard. e.g. Banyan tree	Hollow, e.g. Bamboo False, e.g. Banana Disc-like, e.g. Onion.
Leaf	Reticulate venation	Parallel venation
Flower	Flowers with 4 or 5 parts or in their multiples (tetramerous or pentamerous)	Flowers with 3 parts or in multiples of three (trimerous).

c. Write a paragraph in your own words about the ornamental plants called ferns.

Answer:

- Ferns belong to the group of plants called Pteridophyta.
- They have well-developed roots, stem and leaves but do not bear flowers and fruits.
- They have separate tissues for the conduction of food and water.
- They reproduce with the help of spores formed along the back or posterior surface of their leaves.
- They reproduce asexually by spore formation and sexually by zygote formation.

d. Sketch, label and describe the Spirogyra.

e. Write the characteristics of the plants belonging to division Bryophyta.

Answer:

- Bryophyta group of plants are called the amphibians of the plant kingdom because they grow in moist soil but need water for reproduction.
- These plants are thalloid, multicellular and autotrophic.
- They reproduce by spore-formation.
- Their plant body structure is flat, ribbon-like, long, without true roots, stem and leaves.
- Instead, they have stem-like or leaf-like parts and root-like rhizoids.
- They do not have specific tissues for the conduction of food and water.
- Examples: Moss (Funaria), Anthoceros, Riccia etc.?

4. Sketch and label the figures of the following plants and explain them into brief.

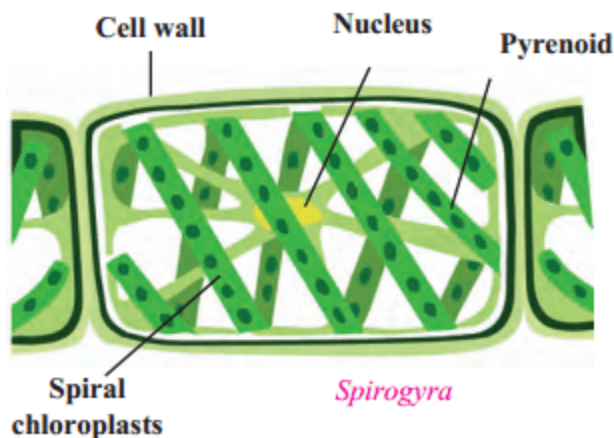
Marchantia, Funaria, Fern, Spirogyra.

Question 1.

Spirogyra.

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Answer:



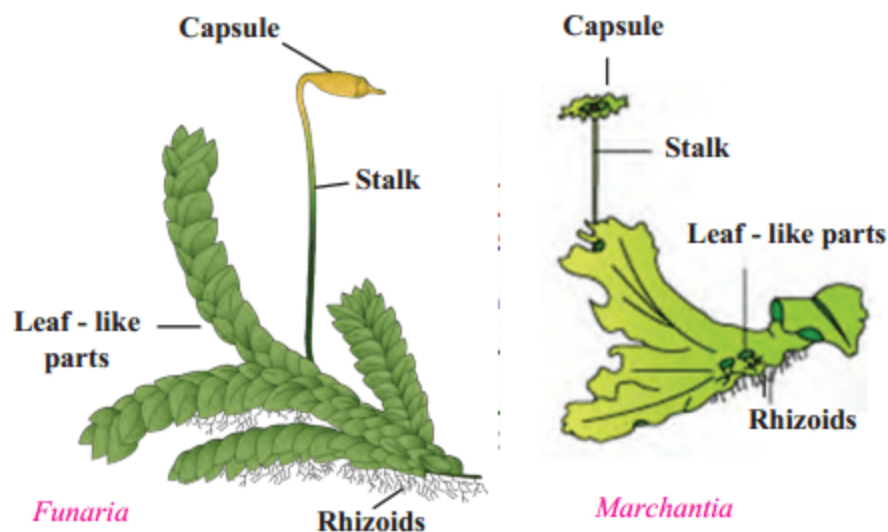
- Spirogyra belongs to the division thallophyta. They are called as algae.
- It grows mainly in water.
- It does not have specific parts like root-stem- leaves-flowers but are autotrophic due to the presence of chlorophyll.
- The plant body of Spirogyra is soft and fibre-like.
- It has spirally arranged chloroplasts in its cell.

Question 2.

Funaria and Marchantia (Bryophyta)

Answer:

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- These plants are called 'amphibians' of the plant kingdom because they grow mostly in soil and need water for reproduction.
- They do not have specific tissues for the conduction of food and water.
- The plant body is flat, ribbon-like long, without true roots, stem and leaves
- Instead, they have stem-like or leaf-like parts and root like rhizoids.

Question 3.

Fern (Pteridophyta):

Answer:

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- They have well-developed roots, stem and leaves for the conduction of food and water.
- They do not bear flowers and fruits.
- They reproduce with the help of spores present along the back or posterior surface of the leaves.

5. Collect a monocot and dicot plant available in your area. Observe the plants carefully and describe them in scientific language.

6. Which criteria are used for the classification of plants? Explain with reasons.

Answer:

Criteria for classification of plants:

- If plants do not bear flowers, fruits and seeds, they are non-seed bearing plants. If they bear flowers, fruit and seeds, they are seed-bearing plants.
- Presence or absence of conducting tissues- Plants such as pteridophytes, gymnosperms and angiosperms which possess conducting tissues are included in vascular plants whereas thallophytes and bryophytes which do not possess conducting tissues are included under non-vascular plants.
- Depending upon whether the seeds are enclosed in fruit or not, plants are classified as gymnosperms (naked-seeds) and angiosperms (seeds covered by fruit)
- Depending upon the number of cotyledons in seeds, plants are classified into dicotyledons and monocotyledons

Questions and Answers

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Can you recall?

Question 1.

How have living organisms been classified?

Answer:

(i) Organisms have been classified based on the following:

- Cell structure
- Body Organisation
- Mode of nutrition
- Reproduction

(ii) Organisms are also classified at kingdom level and groups and subgroups.

Activity-based questions

Question 1.

You may have seen a lush green soft carpet on old walls, bricks and rocks in the rainy season. Scrape it gently with a small ruler, observe it under a magnifying lens and discuss.

Answer:

- It shows considerable tissue complexity and is differentiated into two main parts: a root and a shoot.
- They have a variety of specialized tissues within these two regions of the body.
- Same kind of cells are seen throughout the whole body except reproductive cells.

Question 2.

You may have seen ferns among the ornamental plants in a garden. Take a leaf of a fully grown fern and observe it carefully.

Answer:

- New leaves typically expand by the unrolling in a tight spiral manner.
- The anatomy of fern leaves can either be simple or highly divided.
- They show the presence of spores formed along the back or posterior surface of their leaves.

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Question 3.

Observe all garden plants like Cycas, Christmas tree, Hibiscus, Lily, etc. and compare them. Note the similarities and differences among them. Which differences did you notice in gymnosperms and angiosperms?

Answer:

Cycas and Christmas tree are gymnosperms, whereas Hibiscus and lily are angiosperms.

1. Similarities: These plants have special structures for reproduction and produce seeds. During the germination of the seed, the stored food is used for the initial growth of the embryo.
2. Differences: In gymnosperms, reproductive organs have cones whereas in angiosperms reproductive organs have flowers.
3. In gymnosperms, seeds are without natural coverings whereas in angiosperms seeds are enclosed in natural coverings called fruits.

Question 4.

Soak the seeds of corns, beans, groundnut, tamarind, mango, wheat, etc. in water for 8 to 10 hrs. After they are soaked, check each seed to see whether it divides into two equal halves or not and categorize them accordingly.

Answer:

Monocots: corn, wheat (it cannot be divided into equal halves)

Dicots: beans, groundnut, tamarind and mango (it can be divided into two equal halves)

Additional Important Questions and Answers

Choose and write the correct option:

Question 1.

The five-kingdom classification was proposed by

- (a) Robert Whittaker
- (b) Robert Hooke
- (c) Eichler

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(d) Louis Pasteur

Answer:

(a) Robert Whittaker

Question 2.

In 1883, classified plants into two sub-kingdoms.

(a) Robert Whittaker

(b) Alexander Fleming

(c) Eichler

(d) Robert Hooke

Answer:

(c) Eichler

Question 3.

Ulothrix, ulva, sargassum belong to

(a) Bryophyta

(b) Thallophyta

(c) Pteridophyta

(d) Gymnosperms

Answer:

(b) Thallophyta

Question 4.

is a bryophyte.

(a) Ulva

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- (b) Nephrolepis
- (c) Funaria
- (d) Equisetum

Answer:

- (c) Funaria

Question 5.

In the seeds are naked.

- (a) Pteridophyta
- (b) Angiosperms
- (c) Gymnosperms
- (d) Bryophyta

Answer:

- (c) Gymnosperms

Question 6.

In the flowers are reproductive organs.

- (a) Angiosperms
- (b) Gymnosperms
- (c) Pteridophyta
- (d) Bryophyta

Answer:

- (a) Angiosperms

Question 7.

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In the flowers are tetramerous or pentamerous.

- (a) Monocotyledons
- (b) Dicotyledons
- (c) Gymnosperms
- (d) Pteridophyta

Answer:

- (b) Dicotyledons

Question 8.

In monocotyledonous plants, the stem is

- (a) hollow
- (b) false
- (c) disc-like
- (d) all of these.

Answer:

- (d) all of these

Question 9.

Lycopodium belongs to

- (a) Thallophyta
- (b) Bryophyta
- (c) Gymnosperms
- (d) Pteridophyta

Answer:

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(d) Pteridophyta

Question 10.

Leaves of show reticulate venation.

(a) Bamboo

(b) Banana

(c) Onion

(d) Banyan

Answer:

(d) Banyan

Question 11.

Various types of fungi like yeasts and moulds are included in the group

(a) Thallophyta

(b) Halophyte

(c) Xenophyta

(d) Angiosperms

Answer:

(a) Thallophyta

Question 12.

Bryophytes have a root-like structure called

(a) Nodes

(b) Rhizoids

(c) Nodules

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(d) Aerenchyma

Answer:

(b) Rhizoids

Question 13.

reproduce with the help of spores formed along the back or posterior surface of their leaves.

(a) Halophyta

(b) Pteridophyta

(c) Thallophyta

(d) Angiosperms

Answer:

(b) Pteridophyta

Question 14.

In, the reproductive organs cannot be seen.

(a) Pteridophyta

(b) Cryptogams

(c) Thallophyta

(d) Angiosperms

Answer:

(b) Cryptogams

Question 15.

are mostly evergreen, perennial and woody.

(a) Pteridophyta

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- (b) Thallophyta
- (c) Gymnosperms
- (d) Angiosperms

Answer:

- (c) Gymnosperms

Question 16.

Gymnosperms bear male and female flowers on different of the same plant.

- (a) Branches
- (b) Roots
- (c) Sporophylls
- (d) Flowers

Answer:

- (c) Sporophylls

Question 17.

In the seeds are not enclosed by fruit.

- (a) Pteridophyta
- (b) Thallophyta
- (c) Gymnosperms
- (d) Angiosperms

Answer:

- (c) Gymnosperms

Question 18.

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In the seeds are enclosed by fruit.

- (a) Pteridophyta
- (b) Thallophyta
- (c) Gymnosperms
- (d) Angiosperms

Answer:

- (d) Angiosperms

Question 19.

The plants whose seeds cannot be divided into equal parts are called

- (a) Algae
- (b) Fungus
- (c) Dicotyledons
- (d) Monocotyledons

Answer:

- (d) Monocotyledons

Question 20

The plants whose seeds can be divided into equal parts are called

- (a) Algae
- (b) Fungus
- (c) Dicotyledons
- (d) Monocotyledons

Answer:

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(c) Dicotyledons

Find the odd one out:

Question 1.

Ulothrix, Ulva, Nephrolepis, Sargassum

Answer:

Nephrolepis: It belongs to division Pteridophyta whereas the others belong to division thallophyta.

Question 2.

Funaria, Marchantia, Anthoceros, Spirogyra

Answer:

Spirogyra:

Question 3.

Marsilea, Pteris, Lycopodium, Riccia

Answer:

Riccia:

Question 4.

Cycas, Mango, Apple, Banyan

Answer:

Cycas:

Question 5.

Onion, Papaya, Wheat, Green peas

Answer:

Green peas:

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Complete the analogy:

- (1) Spirogyra : Thallophyta :: Riccia :
- (2) Moss : Bryophyta :: Selaginella :
- (3) Nephrolepis : Pteridophyta :: Ulothrix :
- (4) Pteridophyta : Roots :: Bryophyta :
- (5) Gymnosperms : naked seeds :: Angiosperms :
- (6) Dicotyledon : Reticulate venation :: Monocotyledon:
- (7) Bamboo stem: Hollow:: Onion Stem:
- (8) Monocotylendon : Tap root:: Dicotyledon :

Answer:

- (1) Bryophyta
- (2) Pteridophyta
- (3) Thallophyta
- (4) Rhizoids
- (5) Covered seeds
- (6) Parallel venation
- (7) Disc like
- (8) Fibrous roots

Difference between:**Question 1.****Thallophyta and Bryophyta****Answer:**

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Thallophyta

Bryophyta

These plants grow mainly in water

They grow in moist soil but need water for reproduction

Question 2.

Gymnosperms and Angiosperms

Answer:

Gymnosperms

Angiosperms

No natural covering on seeds

Seeds are formed in fruits

Question 3.

Algae and Moss

Answer:

Algae

Moss

These plants mainly grow in water. These plants need water for reproduction.

State whether the following statements are true or false. Correct the false statements:

- (1) Thallophyta are called as the amphibians of the plant kingdom.
- (2) Fungi like yeasts and moulds are included in division bryophyta.
- (3) Moss (Funaria) belongs to division bryophyta.
- (4) Bryophyta have specific tissues for conduction of food and water.

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- (5) Plants belonging to Thallophyta group are only unicellular.
- (6) Pteridophytes have well developed roots, stems and leaves.
- (7) Pteridophytes reproduce with the help of spores formed along the back or posterior surface of their leaves.
- (8) Nephrolepis belongs to division Pteridophyta.
- (9) Depending upon whether seeds are enclosed in a fruit or not, phanerogams are classified into monocots and dicots.
- (10) Gymnosperms are mostly evergreen, perennial and woody.
- (11) Gymnosperms bear male and female flowers on different sporophylls of different plants.
- (12) In Angiosperms, the seeds are covered by fruits.
- (13) Dicotyledonous plants show reticulate venation.
- (14) Monocotyledonous plants have trimerous flowers.
- (15) In dicotyledonous plants, the stem is strong and hard.

Answer:

- (1) False. Thallophyta plants grow mainly in water.
- (2) False. Fungi like yeasts and moulds are included in division thallophyta.
- (3) True
- (4) False. Bryophyta do not have specialised tissues for conduction of food and water.
- (5) False. Plants belonging to thallophyta group may be unicellular or multicellular.
- (6) True
- (7) True
- (8) True

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(9) False. Depending whether seeds are enclosed in a fruit or not, angiosperms are classified into monocots and dicots.

(10) True

(11) False. Gymnosperms bear male and female flowers on different sporophylls of the same plant.

(12) True

(13) False. Dicotyledonous plants show parallel venation.

(14) True

(15) True.

Give name

Question 1.

What are ornamental plants called?

Answer:

Ferns

Question 2.

Plants with two cotyledons are called.

Answer:

Dicots

Question 3.

Plants with single cotyledon are called.

Answer:

Monocots

Question 4.

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Type of venation showed by hibiscus plant leaves

Answer:

Reticulate venation

Question 5.

Type of venation showed by lily plant leaves

Answer:

Parallel venation

One line answers

Question 1.

Which plants are mostly evergreen, perennial and woody?

Answer:

Gymnosperms are mostly evergreen, perennial and woody.

Question 2.

Which type of venation showed by dicot plants?

Answer:

Leaves of dicot plants show reticulated venation.

Question 3.

Which type of venation showed by monocot plants?

Answer:

Leaves of monocot plants show parallel venation

Question 4.

How are angiosperms classified into monocot and dicot?

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Answer:

Depending whether seeds are enclosed in fruit or not, angiosperms are classified into monocot and dicot.

Question 5.

In which division are fungi like moulds and yeast classified?

Answer:

Fungi like moulds and yeast are classified in division thallophyta.

Question 6.

Plants belonging to which group may be unicellular or multicellular?

Answer:

Plants belonging to thallophyta group may be unicellular or multicellular.

Give scientific reason

Question 1.

Thallophyta plants have thin and fibre like body

Answer:

Thallophyta: These plants grow mainly in water i.e. fresh water as well as in saline water, therefore they usually have a soft and fibre-like (filamentous) body.

Question 2.

Bryophyta plants are called the amphibian plants.

Answer:

Bryophyta: They grow in moist soil but need water for reproduction. Therefore, they are called 'amphibians of plant kingdom'.

Question 3.

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Gymnosperms bear their male and female flowers on different sporophylls of the same plant

Answer:

Gymnosperms: As these plants do not take the assistance of pollinators i.e. vectors, the male and female flowers are present on the different sporophyll of the same plant for successful fertilisation.

Write note on

Question 1.

August W. Eichler

Answer:

In 1883, Eichler, a botanist, classified the Kingdom Plantae into two subkingdoms. As a result, two subkingdoms, cryptogams and phanerogams were considered for plant classification.

Question 2.

Thallophyta

Answer:

These plants grow mainly in water. This group of plants, which do not have specific parts like root-stem-leaves-flowers but are autotrophic due to the presence of chlorophyll, is called algae. Algae show great diversity. They may be unicellular or multicellular, and microscopic or large. Examples of algae are Spirogyra, Ulothrix, Ulva, Sargassum, etc. Some of these are found in fresh water while some are found in saline water. These plants usually have a soft and fibre-like body. Various types of fungi like yeasts and moulds which do not have chlorophyll are also included in this group.

Question 3.

Bryophyta

Answer:

This group of plants is called the amphibians' of the plant kingdom because they grow in moist soil but need water for reproduction. These plants are thalloid, multicellular and autotrophic. They reproduce by spore formation. The structure of the plant body of bryophytes is flat,

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ribbon-like long, without true roots, stem and leaves. Instead, they have stem-like or leaf-like parts and root-like rhizoids. They do not have specific tissues for conduction of food and water. Examples are Moss (Funaria), Marchantia, Anthoceros, Riccia, etc.

Question 4.

Pteridophyta

Answer:

Plants from this group have well developed roots, stem and leaves and separate tissues for conduction of food and water. But, they do not bear flowers and fruits. They reproduce with the help of spores formed along the back or posterior surface of their leaves. Examples are ferns like Nephrolepis, Marsilea, Pteris, Adiantum, Equisetum, Selaginella, Lycopodium, etc. These plants reproduce asexually by spore-formation and sexually by zygote formation. They have a well-developed conducting system.

Question 5.

Phanerogams

Answer:

Plants which have special structures for reproduction and produce seeds are called phanerogams. In these plants, after the process of reproduction, seeds are formed which contain the embryo and stored food. During germination of the seed, the stored food is used for the initial growth of the embryo. Depending upon whether seeds are enclosed in a fruit or not, phanerogams are classified into gymnosperms and angiosperms.

Question 6.

Gymnosperms

Answer:

Gymnosperms are mostly evergreen, perennial and woody. Their stems are without branches. The leaves form a crown. These plants bear male and female flowers on different sporophylls of the same plant. Seeds of these plants do not have natural coverings, i.e. these plants do not form fruits and are therefore called gymnosperms. (gymnos: naked, sperms: seeds). Examples Cycas, Picea (Christmas tree), Thuja (Morpankhi), Pinus (Deodar), etc.

Question 7.

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Angiosperms

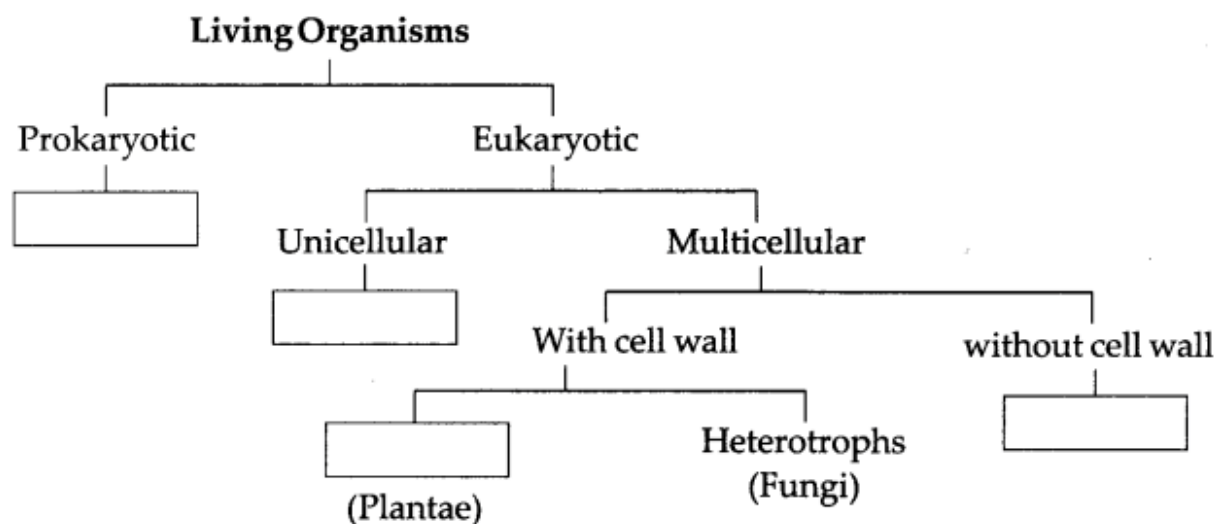
Answer:

The flowers these plants bear are their reproductive organs. Flowers develop into fruits and seeds are formed within fruits. Thus, these seeds are covered; hence, they are called angiosperms (angios: cover, sperms: seeds). The plants whose seeds can be divided into two equal halves or dicotyledons are called dicotyledonous plants and those whose seeds cannot be divided into equal parts are called monocotyledonous plants.

Complete the flow chart.

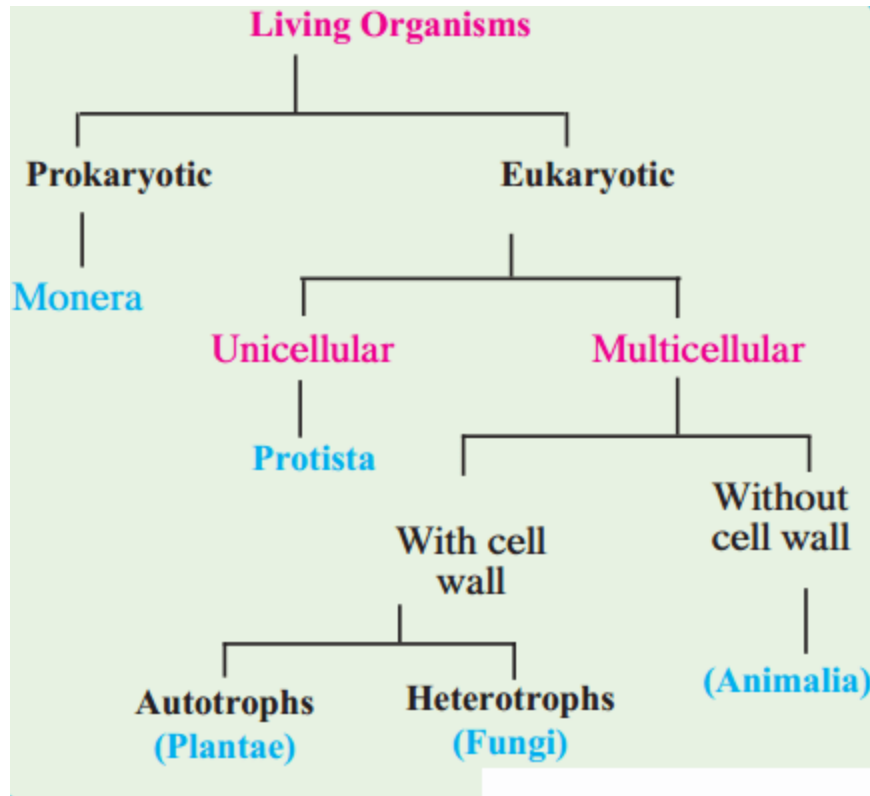
Question 1.

Living Organisms



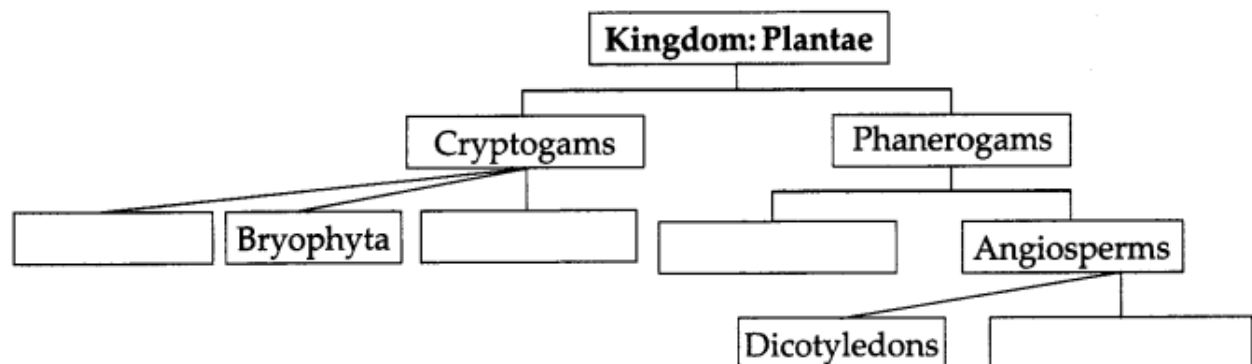
Answer:

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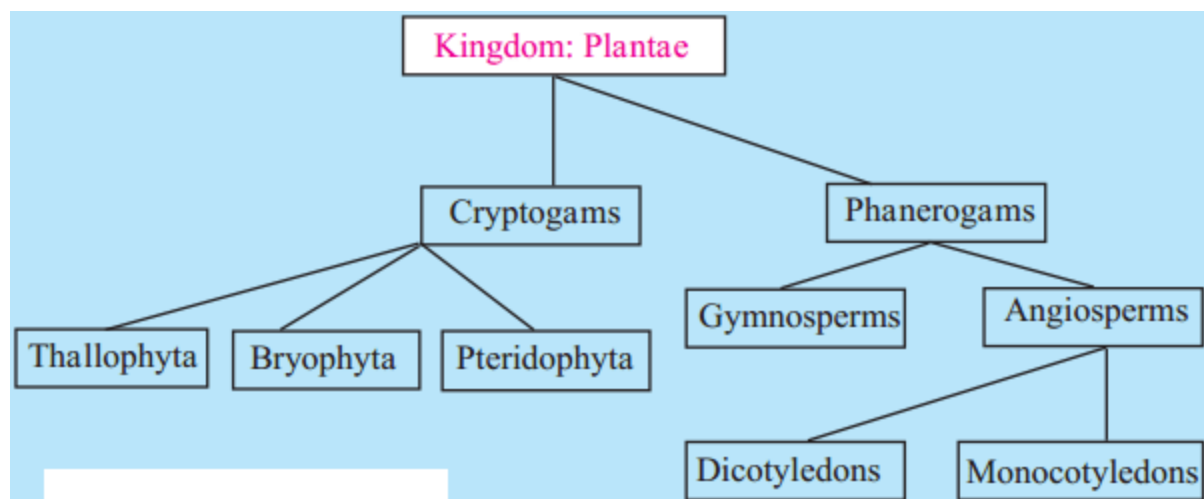
Question 2.

Kingdom: Plantae



Answer:

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Distinguish between:

Question 1.

Bryophyta and Pteridophyta:

Answer:

Bryophyta

Pteridophyta

Bryophytes grow in soil but need water for reproduction.

Pteridophytes grow in soil.

Plant body is without specific parts like true roots, stem and leaves.

Plant body is differentiated into true roots, stem and leaves.

Conducting tissues for food and water absent.

Conducting tissues for food and water present.

Examples: Moss (Funaria), Marchantia, Anthoceros, etc.

Examples: Nephrolepis, Marsilea, Pteris, Adiantum, Lycopodium etc.

Question 2.

Angiosperms and Gymnosperms.

<https://www.indcareer.com/schools/maharashtra-board-solutions-for-class-9-science-chapter-6-classification-of-plants/>

Answer:

Angiosperms

- (i) In Angiosperms, the stems have branches.
- (ii) Reproductive organs are flowers.
- (iii) Seeds are enclosed in natural coverings, i.e., fruits.
- (iv) Examples: Mango, Bamboo, etc.

Gymnosperms

- (i) In Gymnosperms, the stems are without branches.
- (ii) Reproductive organs are cones.
- (iii) Seeds are not enclosed in natural coverings.
- (iv) Examples: Cycas, Picea etc.

Question 3.**Cryptogams and Phanerogams.****Answer:**

Cryptogams

- (iii) Their reproductive organs are hidden.
- (iii) They reproduce by forming spores.
- (iii) They are less evolved plants.
- (iv) They are divided into Thallophyta, Bryophyta, Pteridophyta.

Phanerogams

- (iii) Their reproductive organs are exposed.
- (iii) They reproduce by forming seeds.
- (iii) They are highly evolved plants.
- (iv) They are divided into Gymnosperms and Angiosperms.

Distinguish between:**Question 1.**

<https://www.indcareer.com/schools/maharashtra-board-solutions-for-class-9-science-chapter-6-classification-of-plants/>

Thallophyta

Answer:

Spirogyra, Ulothrix, Ulva, Sargassum

Question 2.

Bryophyta

Answer:

Moss (Funaria), Marchantia, Anthoceros, Riccia

Question 3.

Pteridophyta

Answer:

Nephrolepis, Marsilea, Pteris, Adiantum, Equisetum, Selaginella, Lycopodium

Question 4.

Gymnosperms

Answer:

Cycas, Pinus (Christmas tree), Thuja (Morpankhi), Pinus (Deodar)

Question 5.

Angiosperms

Answer:

Tamarind, Mango, Apple, Lemon

Question 6.

Monocot plants

Answer:

<https://www.indcareer.com/schools/maharashtra-board-solutions-for-class-9-science-chapter-6-classification-of-plants/>

Bamboo, bananas, corn, daffodils, garlic, ginger, grass, lilies, onions, orchids, rice, sugarcane, tulips, and wheat

Question 7.

Dicot plants

Answer:

Rose, sunflower, grapes, strawberries, tomatoes, peas, peanuts and potatoes

Observe the figure and answer the questions

1. Dicot Plants



Question 1.

What are the characteristics of the above plants in terms of root system?

Answer:

Well developed, primary root (Tap root)

Question 2.

What are the characteristics of the above plants in terms of flowers?

<https://www.indcareer.com/schools/maharashtra-board-solutions-for-class-9-science-chapter-6-classification-of-plants/>

Answer:

Flowers with 4 or 5 parts or in their multiples (tetramerous or pentamerous)

Question 3.

What are the characteristics of the above plants in terms of leaf venations?

Answer:

Reticulate Venation

Question 4.

What are the characteristics of the above plants in terms of type of stem?

Answer:

Strong and hard

Question 5.

What are the characteristics of the above plants in terms of seed?

Answer:

Two cotyledons

Question 6.

Give example of the following types of plants

Answer:

Rose, sunflower, grapes, strawberries, tomatoes, peas, peanuts and potatoes

2. Monocot Plants



Question 1.

What are the characteristics of the above plants in terms of root system?

Answer:

Fibrous roots

Question 2.

What are the characteristics of the above plants in terms of flowers?

Answer:

Flowers with 3 parts or in multiples of three (trimerous).

Question 3.

What are the characteristics of the above plants in terms of leaf venations?

Answer:

Parallel Venation

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Question 4.

What are the characteristics of the above plants in terms of type of stem?

Answer:

Hollow, False or Disc-like

Question 5.

What are the characteristics of the above plants in terms of seed?

Answer:

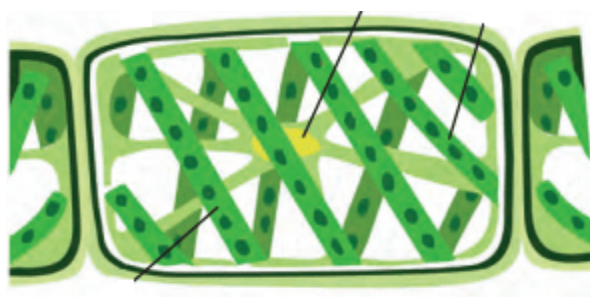
Single cotyledons

Question 6.

Give example of the following types of plants

Answer:

Bamboo, bananas, corn, daffodils, garlic, ginger, grass, lilies, onions, orchids, rice, sugarcane, tulips, and wheat

3. Spirogyra

Spirogyra

Question 1.

Which division of plants does this plant come under?

Answer:

<https://www.indcareer.com/schools/maharashtra-board-solutions-for-class-9-science-chapter-6-classification-of-plants/>

This plant come under Division I Thallophyta.

Question 2.

Where does this plant grow?

Answer:

These plants grow mainly in water.

Question 3.

Are these types of plants unicellular or multicellular?

Answer:

They may be unicellular or multicellular and microscopic or large.

Question 4.

Are these types of plant autotrophic?

Answer:

They are autotrophic due to the presence of chlorophyll but types of fungi like yeasts and moulds which do not have chlorophyll are also included in this group.

Question 5.

Do these plants have a root-stem-leaves-flowers system?

Answer:

They do not have specific parts like root-stem- leaves-flowers.

Question 6.

How is the body of these types of plants?

Answer:

These plants usually have a soft and fibre-like body.

4. Funaria

<https://www.indcareer.com/schools/maharashtra-board-solutions-for-class-9-science-chapter-6-classification-of-plants/>



Funaria

Question 1.

Which division of plants does this plant come under?

Answer:

This plant comes under Division II Bryophyta.

Question 2.

Where does this plant grow?

Answer:

They grow in moist soil but need water for reproduction.

Question 3.

What are these group of plants called in the plant kingdom?

Answer:

This group of plants is called the 'amphibians' of the plant kingdom.

Question 4.

<https://www.indcareer.com/schools/maharashtra-board-solutions-for-class-9-science-chapter-6-classification-of-plants/>

Are these types of plant autotrophic?

Answer:

They reproduce by spore formation.

Question 5.

Do these plants have root-stem-leaves-flowers system?

Answer:

The structure of the plant body of bryophytes is flat, ribbon-like long, without true roots, stem and leaves.

Question 6.

What do these plants have instead of roots?

Answer:

They have root like rhizoids.

5. Fern



<https://www.indcareer.com/schools/maharashtra-board-solutions-for-class-9-science-chapter-6-classification-of-plants/>

Question 1.

Which division of plants does this plant come? under?

Answer:

This plant come under Division III Pteridophyta.

Question 2.

Where does this plant grow?

Answer:

They grow in soil.

Question 3.

How do these plants reproduce?

Answer:

These plants reproduce asexually by spore-formation and sexually by zygote formation.

Question 4.

Do these plants produce flowers and fruits?

Answer:

They do not bear flowers and fruits.

Question 5.

Do these plants have root-stem-leaves-flowers system?

Answer:

Plants from this group have well developed roots, stem and leaves and separate tissues for conduction of food and water.

Question 6.

Where are the spores formed in the plants body?

<https://www.indcareer.com/schools/maharashtra-board-solutions-for-class-9-science-chapter-6-classification-of-plants/>

Answer:

The spores formed along the back or posterior surface of their leaves.

6. Cycas



Question 1.

Which division of plants does this plant come under?

Answer:

This plant comes under Division III Phanerogams Division I Gymnosperms.

Question 2.

Explain structure of these types of plants?

Answer:

Gymnosperms are mostly evergreen perennial and woody.

Question 3.

How is stem and leaves of these types of plants?

Answer:

Their stems are without branches and the leaves form a crown.

<https://www.indcareer.com/schools/maharashtra-board-solutions-for-class-9-science-chapter-6-classification-of-plants/>

Question 4.

Where are the male and female flowers located?

Answer:

These plants bear male and female flowers on different sporophylls of the same plant.?

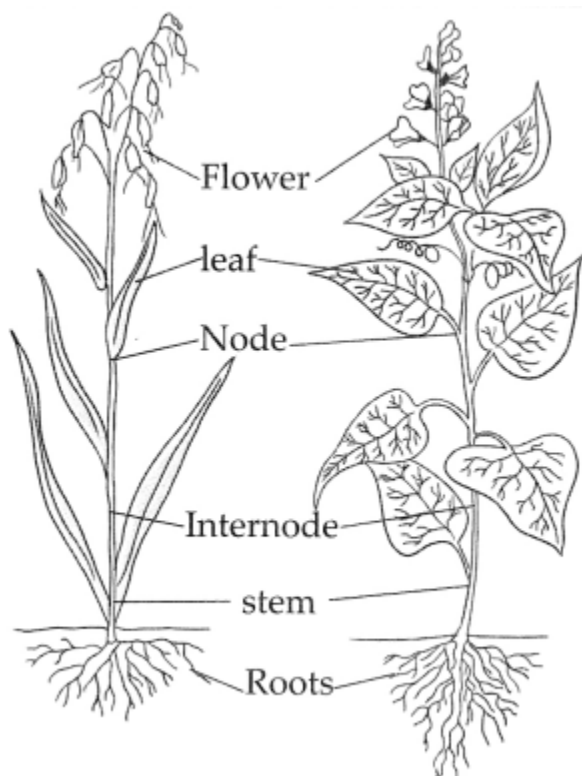
Question 6.

Give some examples of these types of plants?

Answer:

Rose, sunflower, grapes, strawberries, tomatoes, peas, peanuts and potatoes

7. Monocot and Dicot plants



Question 1.

Which division of plants does this plant come under?

<https://www.indcareer.com/schools/maharashtra-board-solutions-for-class-9-science-chapter-6-classification-of-plants/>

Answer:

This plant comes under Division III Phanerogams Division II Angiosperms

Question 2.

How are the seeds of these types of plants?

Answer:

The seeds are formed within fruits thus these seeds are covered

Question 3.

How can we classify the plants according to their seeds in this division?

Answer:

The plants whose seeds can be divided into two equal halves or cotyledons are called dicotyledonous plants and those whose seeds cannot be divided into equal parts are called monocotyledonous plants.

Question 4.

How the venations are present on the leaves of these types of plants?

Answer:

These plants bear parallel or reticulated venations on the leaves.

Question 5.

How is the root system of these types of plants?

Answer:

The root systems of these types of plant are tap roots or fibrous roots.

Complete the paragraph

Question 1.

<https://www.indcareer.com/schools/maharashtra-board-solutions-for-class-9-science-chapter-6-classification-of-plants/>

Thallophyta plants grow mainly in This group of plants, which do not have specific parts like root-stem-leaves-flowers but are autotrophic due to the presence of, is called algae. Algae show great diversity. They may be unicellular or, and microscopic or large. Examples of algae are Spirogyra, Ulothrix, Ulva, Sargassum, etc. Some of these are found in fresh water while some are found in saline water. These plants usually have a and fibre-like body. Various types of like yeasts and moulds which do not have are also included in this group.

Answer:

Thallophyta plants grow mainly in water. This group of plants, which do not have specific parts like root-stem-leaves-flowers but are autotrophic due to the presence of chlorophyll, is called algae. Algae show great diversity. They may be unicellular or multicellular, and microscopic or large. Examples of algae are Spirogyra, Ulothrix, Ulva, Sargassum, etc. Some of these are found in fresh water while some are found in saline water. These plants usually have a soft and fibre-like body. Various types of fungi like yeasts and moulds which do not have chlorophyll are also included in this group.

Question 2.

..... group of plants is called the amphibians' of the plant kingdom because they grow in moist soil but need for reproduction. These plants are thalloid, multicellular and autotrophic. They reproduce by formation. The structure of the plant body of bryophytes is flat, ribbon-like long, without true, stem and leaves. Instead, they have stem-like or leaf-like parts and root-like They do not have specific for conduction of food and water. Examples are Moss (Funaria), Marchantia, Anthoceros, Riccia, etc.

Answer:

Bryophyta group of plants is called the 'amphibians' of the plant kingdom because they grow in moist soil but need water for reproduction. These plants are thalloid, multicellular and autotrophic. They reproduce by spore formation. The structure of the plant body of bryophytes is flat, ribbon-like long, without true roots, stem and leaves. Instead, they have stem-like or leaf-like parts and root-like rhizoids. They do not have specific tissues for conduction of food and water. Examples are Moss (Funaria), Marchantia, Anthoceros, Riccia, etc.

Question 3.

Plants from Pteridophyta group have well developed roots, stem and leaves and separate for conduction of food and water. But,

<https://www.indcareer.com/schools/maharashtra-board-solutions-for-class-9-science-chapter-6-classification-of-plants/>

they do not bear and They reproduce with the help of formed along the back or posterior surface of their leaves. Examples are ferns like Nephrolepis, Marsilea, Pteris, Adiantum, Equisetum, Selaginella, Lycopodium, etc. These plants reproduce by spore-formation and sexually by formation. They have a well-developed conducting system.

Answer:

Plants from Pteridophyta group have well developed roots, stem and leaves and separate tissues for conduction of food and water. But, they do not bear flowers and fruits. They reproduce with the help of spores formed along the back or posterior surface of their leaves. Examples are ferns like Nephrolepis, Marsilea, Pteris, Adiantum, Equisetum, Selaginella, Lycopodium, etc. These plants reproduce asexually by spore-formation and sexually by zygote formation. They have a well-developed conducting system.

Question 4.

Phanerogams plants which have special structures for and produce In these plants, after the process of reproduction, seeds are formed which contain the and stored food. During germination of the seed, the stored food is used for the initial growth of the embryo. Depending upon whether seeds are enclosed in a or not, phanerogams are classified into and

Answer:

Phanerogams plants which have special structures for reproduction and produce seeds. In these plants, after the process of reproduction, seeds are formed which contain the embryo and stored food. During germination of the seed, the stored food is used for the initial growth of the embryo. Depending upon whether seeds are enclosed in a fruit or not, phanerogams are classified into gymnosperms and angiosperms.

Question 5.

Gymnosperms are mostly, perennial and woody. Their stems are without The leaves form a These plants bear male and female flowers on different of the same plant of these plants do not have natural coverings, i.e. these plants do not form and are therefore called gymnosperms. (gymnos: naked, sperms: seeds). Examples Cycas, Picea (Christmas tree), Thuja (Morpankhi), Pinus (Deodar), etc.

Answer:

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Gymnosperms are mostly evergreen, perennial • and woody. Their stems are without branches. The leaves form a crown. These plants bear male and female flowers on different sporophylls of the same plant. Seeds of these plants do not have natural coverings, i.e. these plants do not form fruits and are therefore called gymnosperms. (gymnos: naked, sperms: seeds). Examples Cycas, Picea (Christmas tree), Thuja (Morpankhi), Pinus (Deodar), etc.

Question 6.

The flowers of Angiosperms plants bear are their organs Flowers develop into and seeds are formed within Thus, these seeds are; hence, they are called angiosperms (angios: cover, sperms: seeds). The plants whose seeds can be divided into two equal halves or dicotyledons are called plants and those whose seeds cannot be divided into equal parts are called plants.

Answer:

The flowers of Angiosperms plants bear are their reproductive orgAnswer: Flowers develop into fruits and seeds are formed within fruits. Thus, these seeds are covered; hence, they are called angiosperms (angios: cover, sperms: seeds). The plants whose seeds can be divided into two equal halves or dicotyledons are called dicotyledonous plants and those whose seeds cannot be divided into equal parts are called monocotyledonous plants.

Answer the questions in detail:

Question 1.

Write the characteristics of Thallophyta.

Answer:

- Thallophyta plants grow mainly in water.
- The group of plants, which do not have specific parts like root-stem-leaves-flowers but are autotrophic due to the presence of chlorophyll are called algae.
- Algae show great diversity They may be unicellular or multicellular and microscopic or large.
- Some of these are found in freshwater while some are found in saline water.
- Various types of fungi like yeasts and moulds which do not have chlorophyll are also included in this group.
- Examples: Spirogyra, Ulothrix, Ulva, etc.

Question 2.

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Write the characteristics of Gymnosperms.

Answer:

- Gymnosperms are mostly evergreen, perennial and woody.
- Their stems are without branches.
- The leaves form a crown.
- These plants bear male and female flowers on different sporophylls of the same plant.
- Seeds of these plants do not have natural coverings, i.e. these plants do not form fruits and are therefore called gymnosperms (gmnos: naked, sperms: seeds)
- Examples: Cycas, Picea (christmas tree), Thuja, Pinus (deodar), etc.

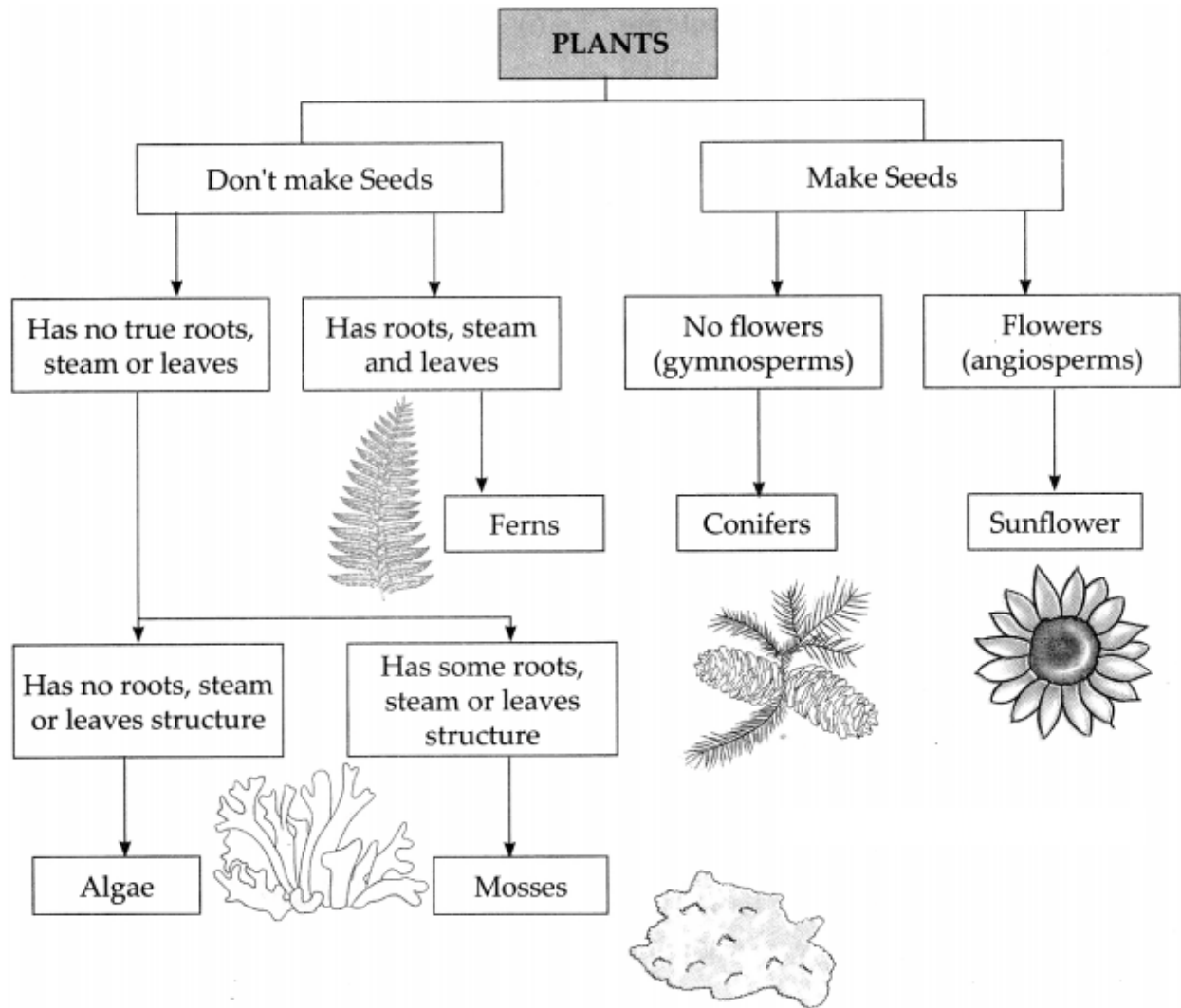
Make concept diagram

Question 1.

Plant classification

Answer:

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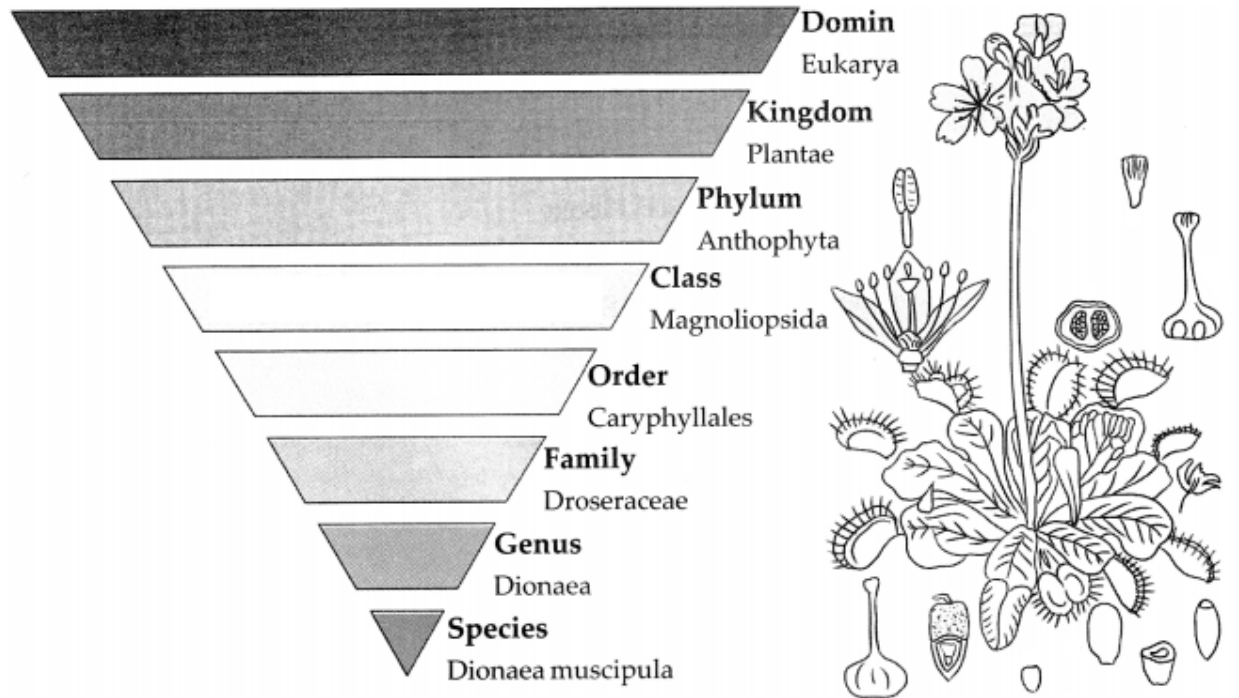


Question 2.

Taxonomy of carnivorous plant

Answer:

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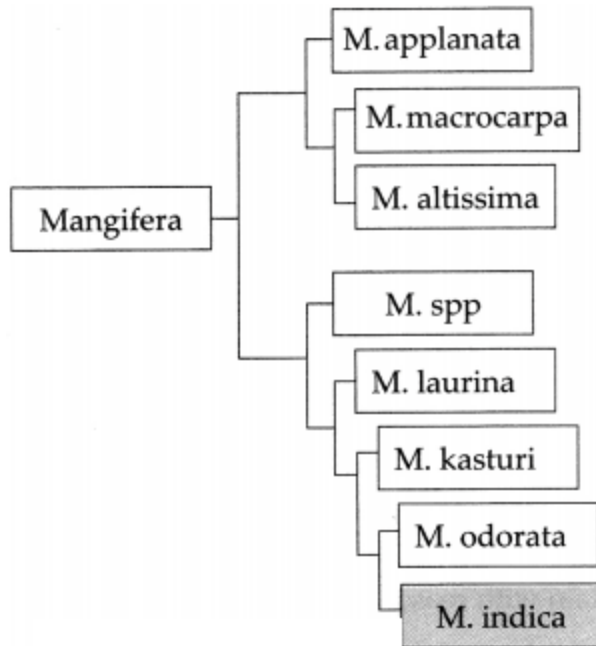


Question 3.

Taxonomy of mango plant

Answer:

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The Maharashtra State Board of Secondary and Higher Secondary Education or MSBSHSE (Marathi: महाराष्ट्र राज्य माध्यमिक आणि उच्च माध्यमिक शिक्षण मंडळ), is an **autonomous and statutory body established in 1965**. The board was amended in the year 1977 under the provisions of the Maharashtra Act No. 41 of 1965.

The Maharashtra State Board of Secondary & Higher Secondary Education (MSBSHSE), Pune is an independent body of the Maharashtra Government. There are more than 1.4 million students that appear in the examination every year. The Maha State Board conducts the board examination twice a year. This board conducts the examination for SSC and HSC.

The Maharashtra government established the Maharashtra State Bureau of Textbook Production and Curriculum Research, also commonly referred to as Ebalbharati, in 1967 to take up the responsibility of providing quality textbooks to students from all classes studying under the Maharashtra State Board. MSBHSE prepares and updates the curriculum to provide holistic development for students. It is designed to tackle the difficulty in understanding the concepts with simple language with simple illustrations. Every year around 10 lakh students are enrolled in schools that are affiliated with the Maharashtra State Board.

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