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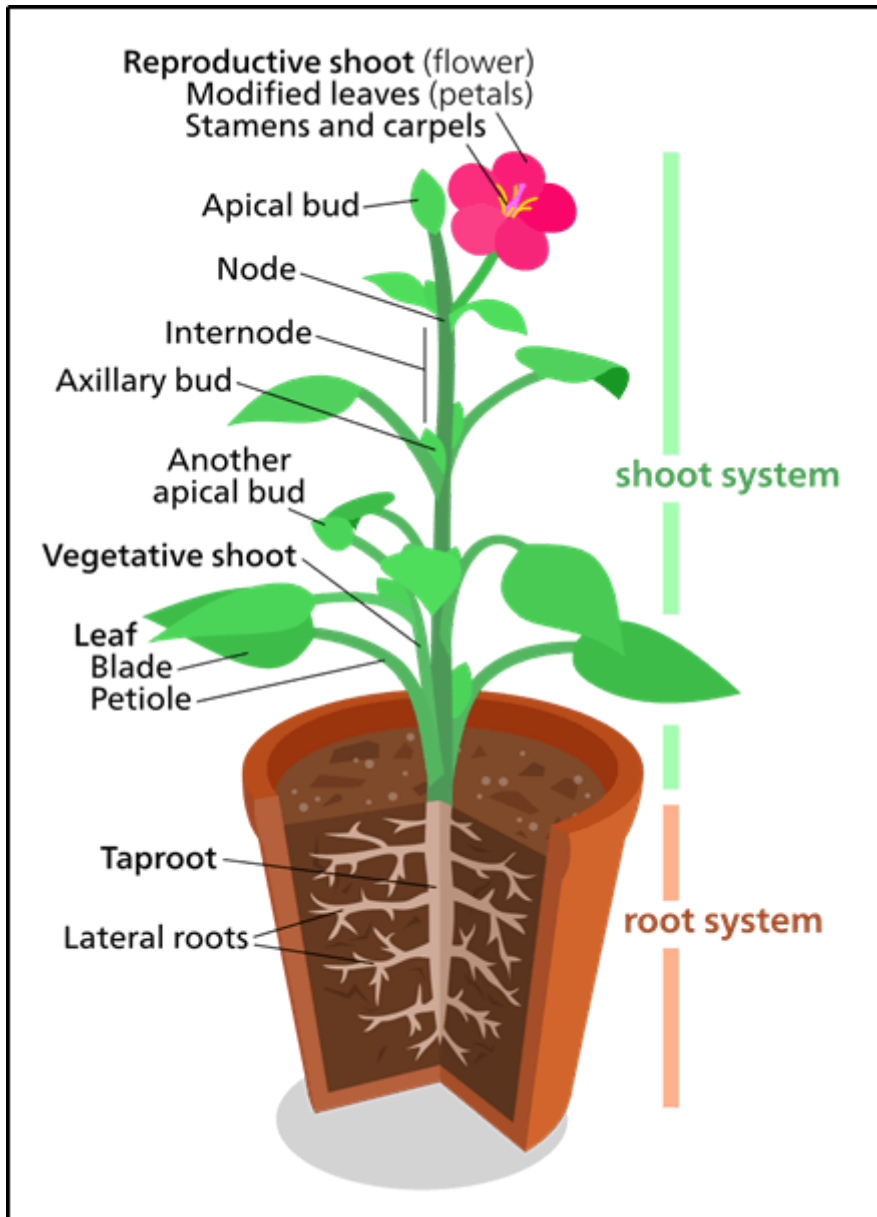
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## Botany: Definition and Meaning of Botany, Branches of Botany (For CBSE, ICSE, IAS, NET, NRA 2022)

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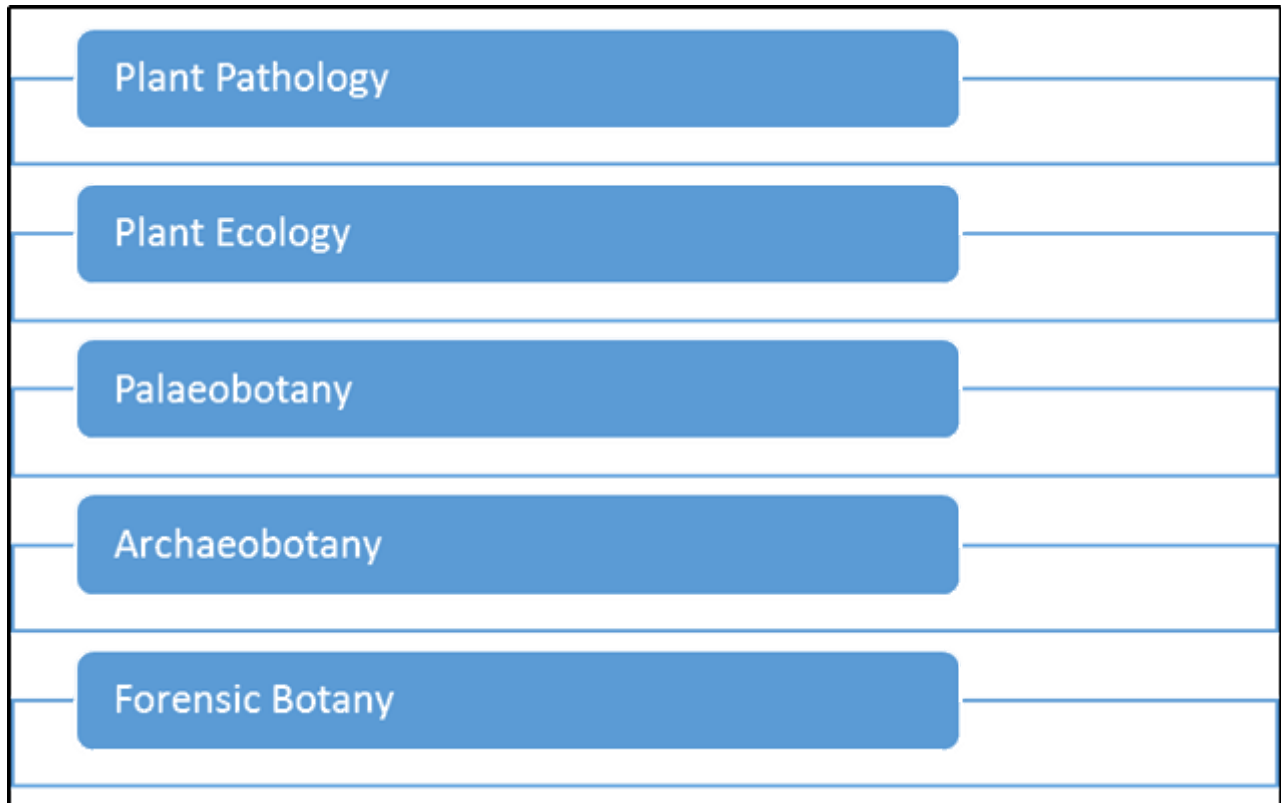
### **Definition and Meaning of Botany**

- The branch of biology that deals with the study of plants.
- The term 'botany' is derived from the Greek word 'botane.'
- Botany initially included all the plant-like organisms such as algae, lichens, ferns, fungi, mosses.
- It is also the study of the vital processes such as photosynthesis, respiration, and plant nutrition.
- Botany originated in prehistory as herbalism.



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## Branches of Botany



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## Plant Pathology

- A science studies plant disease.
- It attempts to improve the chances for survival of plants.
- It has advanced techniques to protect crops from losses due to diseases.

## Plant Ecology

- It is a sub discipline of ecology.
- It studies the distribution and abundance of plants.
- It supplies food to all terrestrial organisms, including humans.

## Palaeobotany

- It is the branch of botany dealing with the recovery and identification of plant remains.
- It focuses on plant fossils, including algae, fungi, and related organisms, as well as mosses, ferns, and seed plants.

## Archaeobotany

- This tells us the way plants were used by the people in the past.
- This is important from the medicinal and spiritual significances perspective of a plant.
- Archaeobotany is also known as Paleoethnobotany.

## Forensic Botany

- It is the use of plants and plant parts.
- Includes pollen, seeds, leaves, flowers, fruits, and wood.
- It plays an important role while ascertaining the cause of death.
  - Investigation of criminal cases
  - Legal questions
  - Disputes
  - Non-criminal cases

## Modern Botany

### Early Modern Botany

- The systems of plant identification were developed during the 18<sup>th</sup> century.
- New plants for study were arriving in Europe by the 18<sup>th</sup> century.

### Late Modern Botany

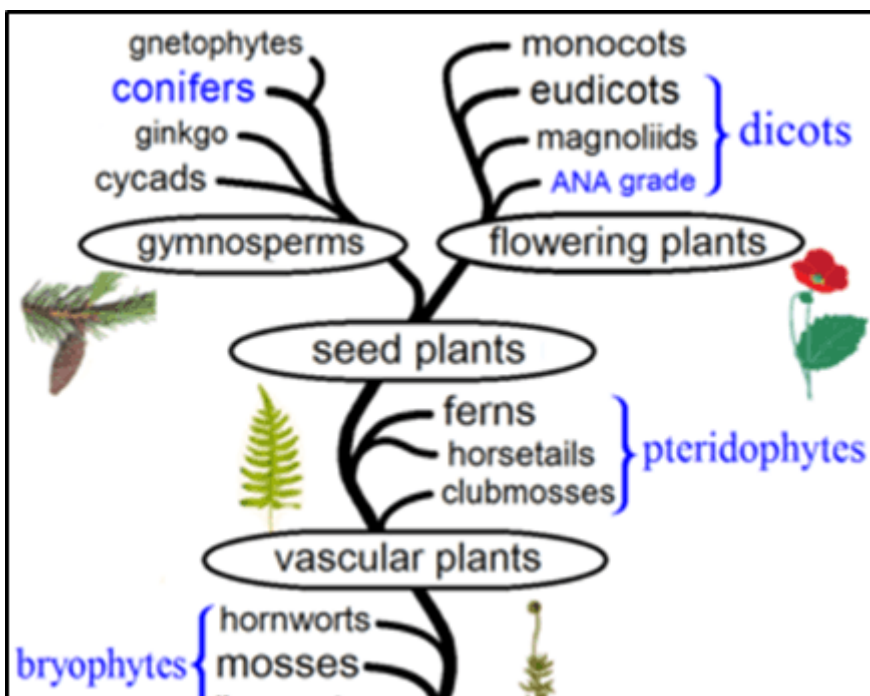
- This includes modern techniques of organic chemical analysis.
  - Spectroscopy
  - Chromatography
  - Electrophoresis
- August Weismann (1834 – 1914) proved that inheritance only takes place through gametes.

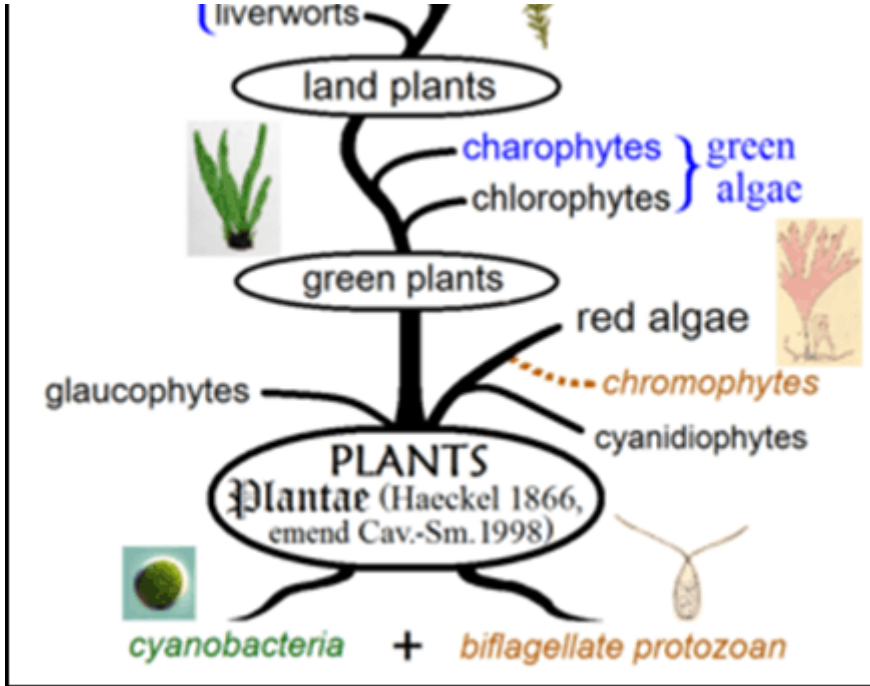
## Importance of Botany

- It helps in studying the characteristics and the uses of plants.
- It plays a crucial role around economic productivity.
  - Involvement in the study of crops.
  - Helps farmers increase crop yield.
- The study of Botany also influences the fields of science, medicine, and cosmetics.
- It further helps in understanding the environmental challenges more clearly.

- It helps in producing the medicine and materials for treatment of diseases.
- It helps in understanding the fundamental life processes.

## **Evolution of Plants**





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