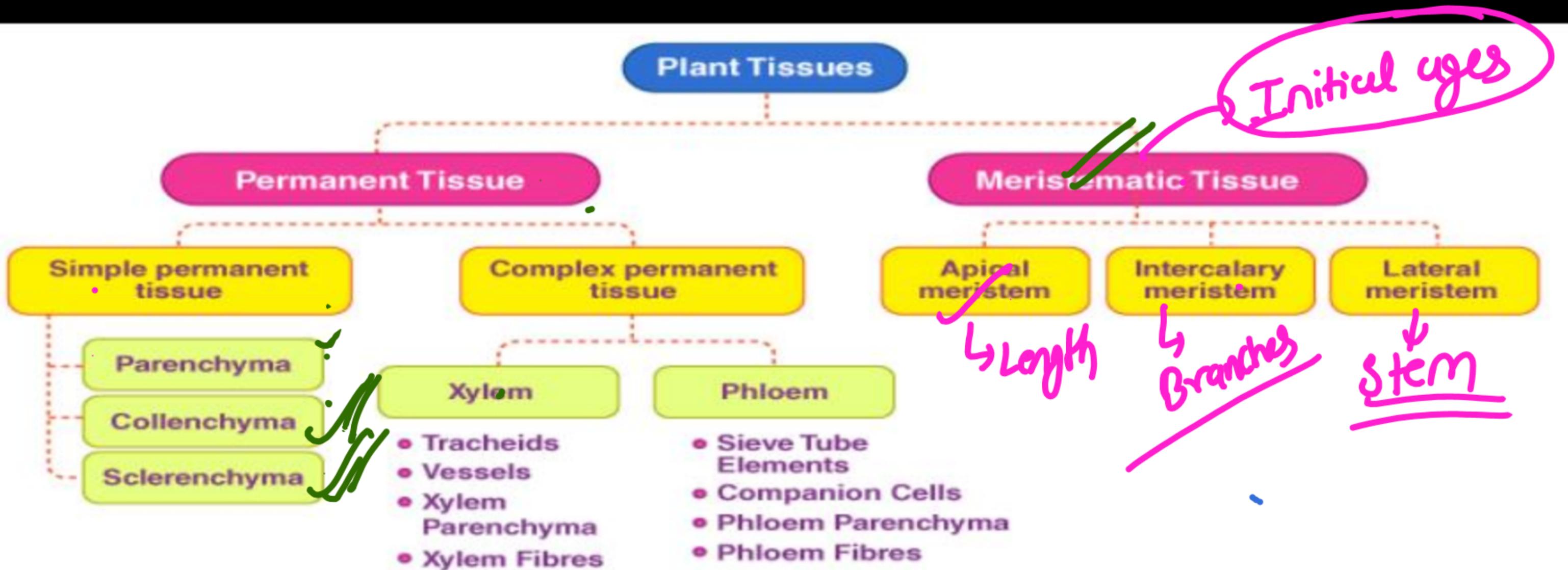


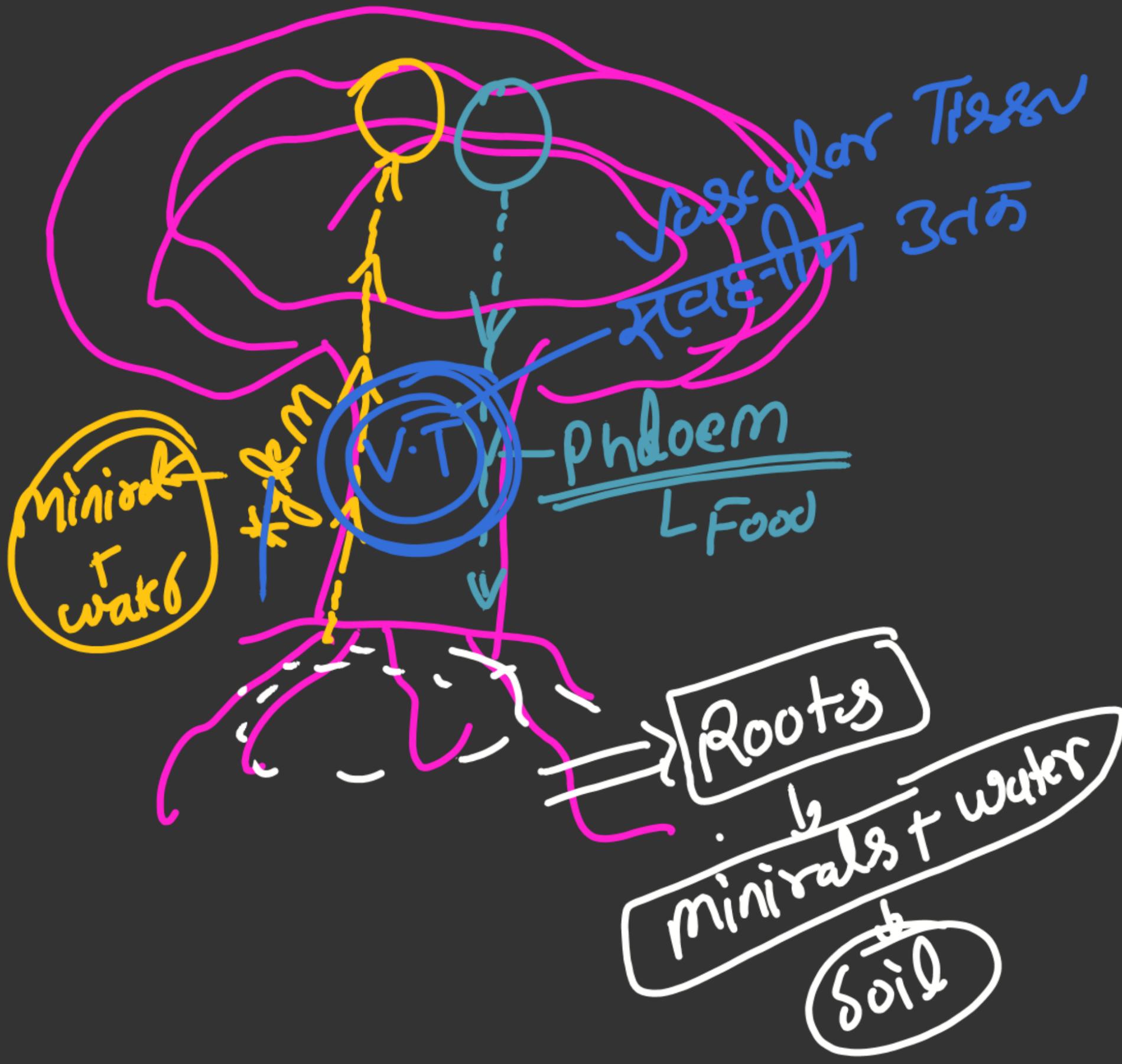
**GENERAL  
SCIENCE**

**PLANT KINGDOM**

# GENERAL SCIENCE

## Plant Tissue :-





→ Root

→ Stem

→ Leaves

~~→ Flowers~~

→ Fruits

→ Seed

KINGDOM

Plantae

SUB KINGDOM

Cryptogamae

फूल X

Phanerogamae

फूल ✓

DIVISION

Thallophyta

Bryophyta

Pteridophyta

Spermatophyta

SUB DIVISION

Algae

Fungi

Gymnospermae

Angiospermae

Eg: Spirogyra

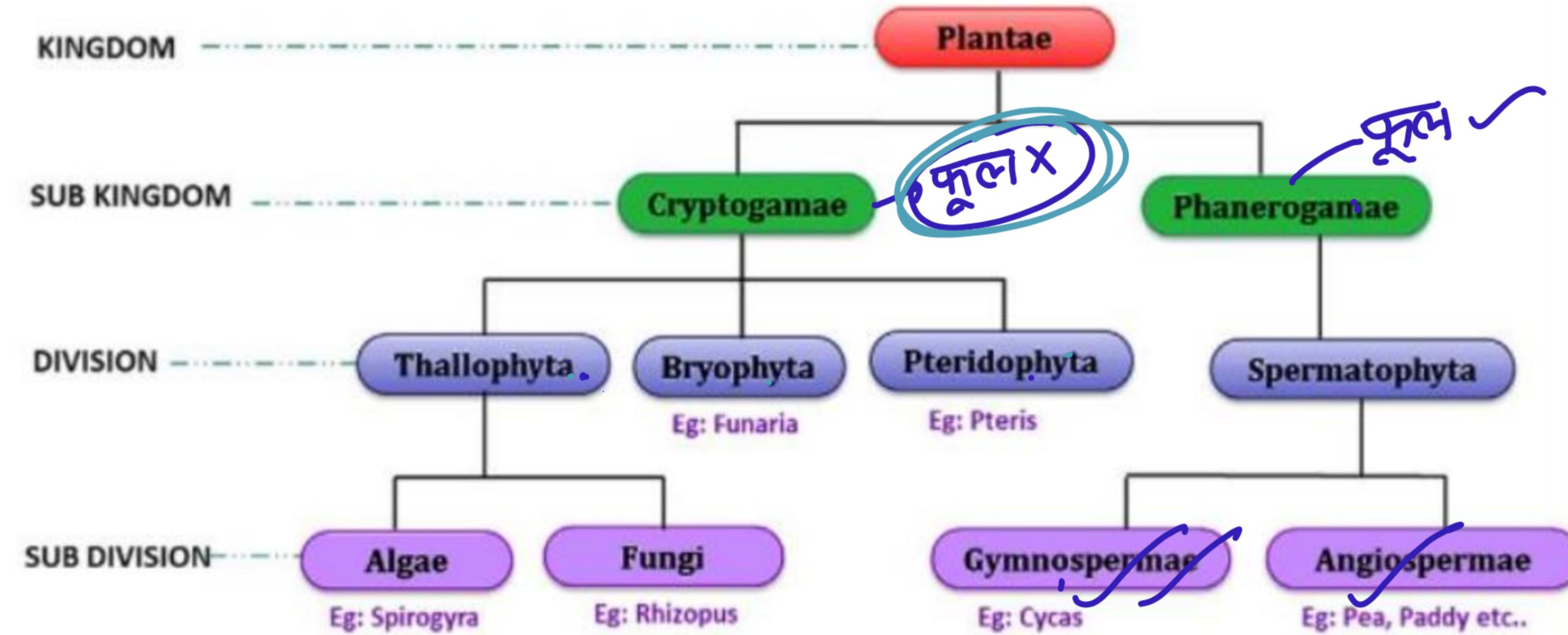
Eg: Rhizopus

Eg: Cycas

Eg: Pea, Paddy etc..

Eg: Funaria

Eg: Pteris



# Kingdom Plantae

Has no seeds

Cryptogams

Has no true roots, stems or leaves



Algae  
*Chlorophyta*

Has some root and leaf-like structures



Mosses and liverworts  
*Bryophyta*

Has roots, stems and leaves



Ferns and Horsetails  
*Pteridophyta*

Has seeds

Phanerogams

Has no flowers

Gymnosperms

Needle-like leaves



Conifers  
*Pinophyta*

Wide leaves



Ginkos  
*Ginkgophyta* and  
cycads  
*Cycadophyta*

Has flowers

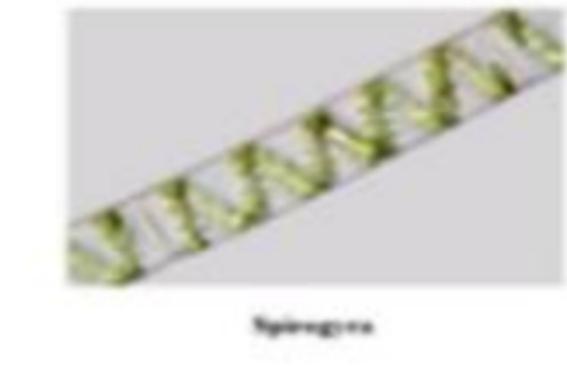
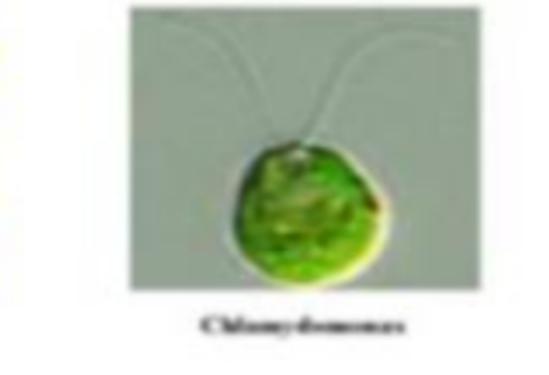
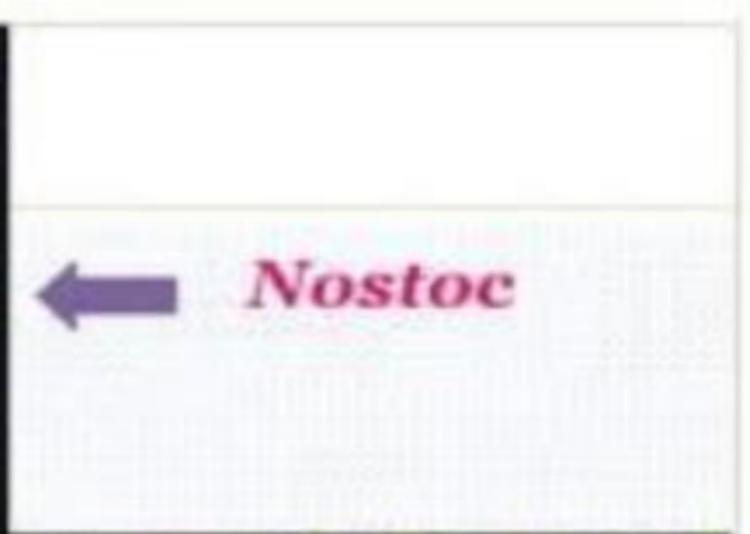
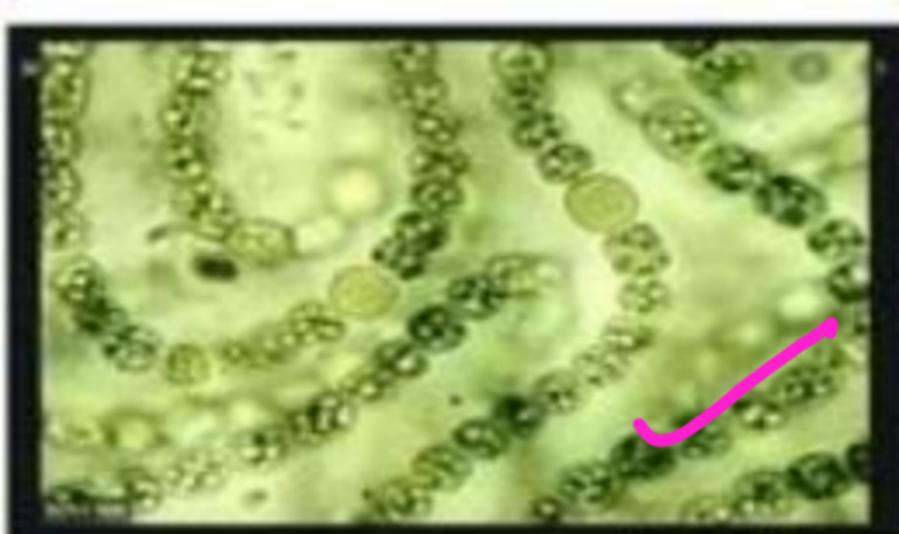
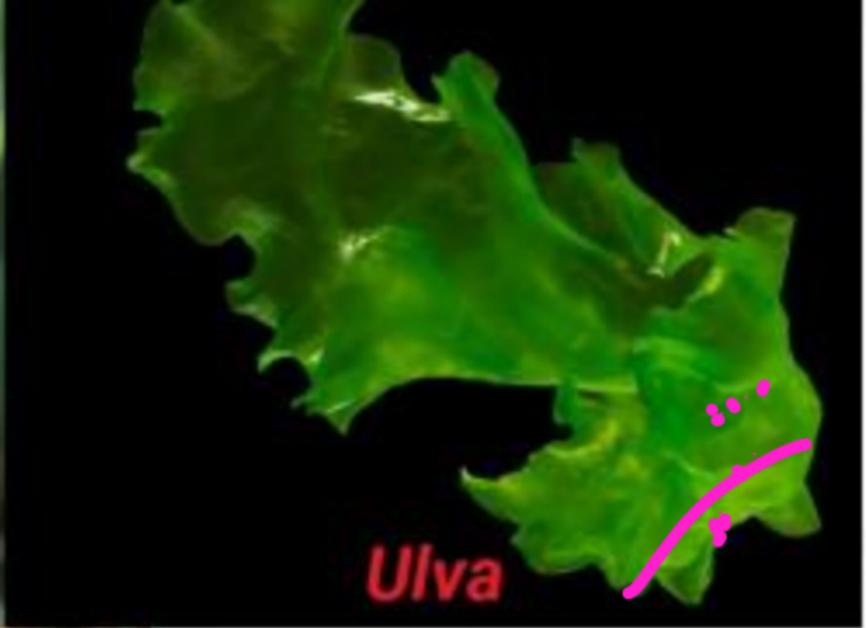


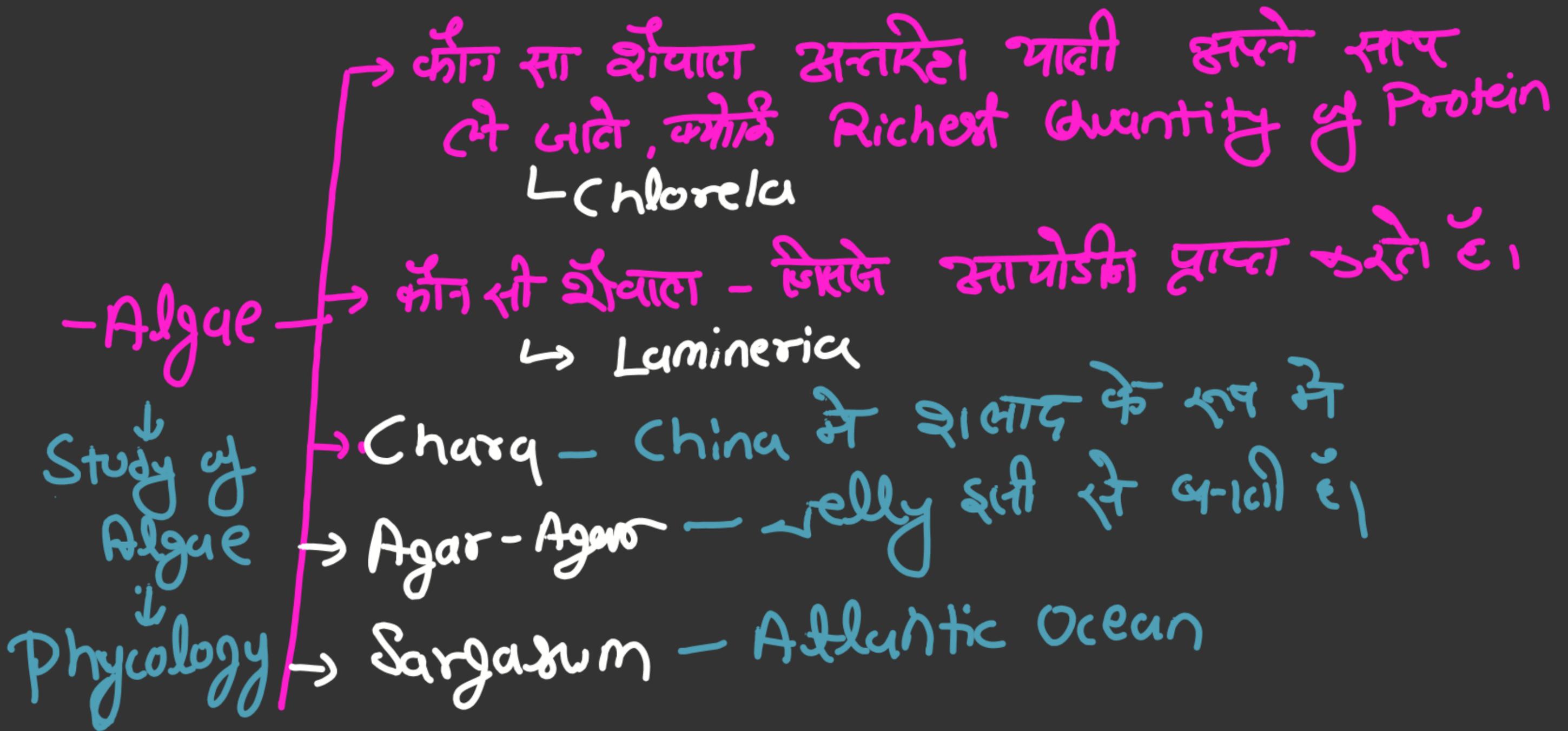
Angiosperms  
*Magnoliophyta*

# GENERAL SCIENCE

**Thallophyte :-**

- Thaloid Structure (चपटी हुई)
- Not Differentiate
  - Root
  - Stem
  - Leaves
- Aquatic (जलीय) - केवल जल में
- Chlorophil → Autotrophic
- Ex ⇒ Algae ✓





- Algae

↓  
Study of  
Algae

↓  
Phycology

→ Koini sa shiyala (Coccoloba) - Use jate, koini Richest Quantity of Protein  
↳ Chlorocella

→ Koini shiyala (Laminaria) - Agarose prapta karte h.  
↳ Laminaria

→ Chara - China me Shilad ke rup me

→ Agar-Agar - Jelly shi se bani h.

→ Sargassum - Atlantic Ocean

# GENERAL SCIENCE

Bryophyte :-

- Thalus Structure
- Not Differentiate —
  - ↳ root
  - ↳ stem
  - ↳ leaves
- ⇒ Chlorofil = Autotrophic
- moisture (नमी)
- Ex = कण (masses)
- Amphibian of Plant Kingdom
  - ↳ नमी + अमी

# Examples of Bryophytes

## Liverworts



- > Marchantia
- > Riccia
- > Pellia,

## Mosses



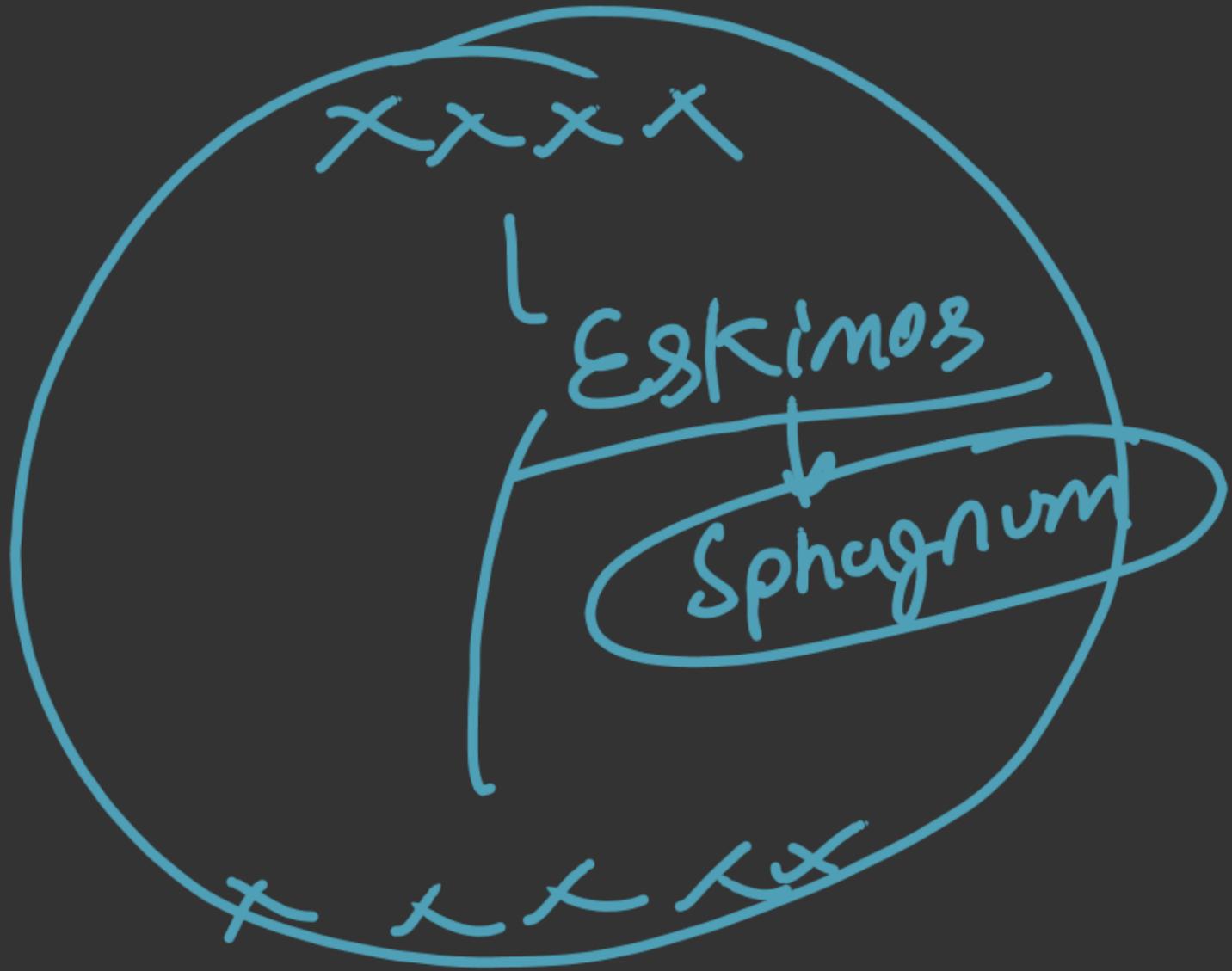
- > Funaria
- > Polytrichum
- > Sphagnum



## Hornworts



- > Anthoceros
- > Notothylas
- > Megaceros



# GENERAL SCIENCE

Pteridophyte :-

- ↳ Proper - Root, Stem, Leaves
- ↳ Vascular Tissue ✓✓
- ↳ Flowers: - xx
- ↳ Present ⇒ Shadow / Desert / Rain / ...
- ↳ Plant Kingdom = Reptiles
- ↳ Ex = 

Ornaments	Plant
∩	
Fern	



*Equisetum*



*Selaginella*



*Osmunda*



*Lycopodium phlegmaria*



Selaginella



Pteris



Pteris



Adiantum



Equisetum

# GENERAL SCIENCE

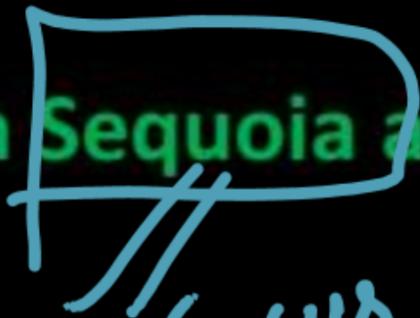
## Gymnospermae :-

- Plants body are differentiated into root, stem & leaves.
- Plants are woody, perennial and bear naked seed.
- Tap roots are well developed
- Pollination by air
- Longest plant of this kingdom Sequoia and smallest is Zaimia Pygmaea.

Flowers are present

→ Mountain

↳ Seed coat



↳ Pinus.  
↳ Hill

Cycus, Deodar, Sprus



*Zamia*



*Thuja*



*Podocarpus*



a) *Cycas*



b) *Thuja*



*Ginkgo biloba*



*Araucaria*



*Pinus*



Conifers



Cycads



Ginkgoes



Gnetophytes



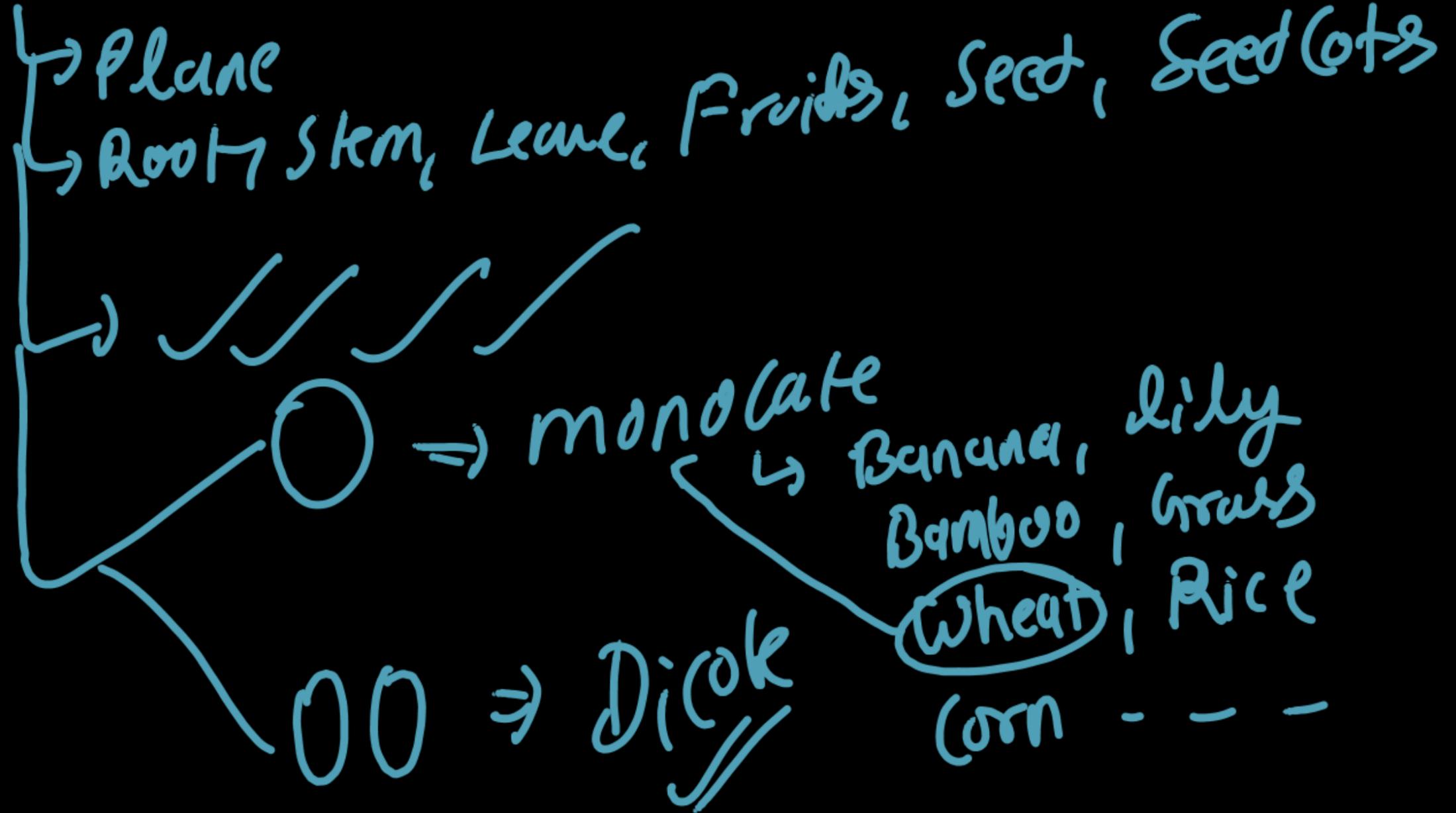
c) *Taxus*



d) *Ginkgo*

# GENERAL SCIENCE

Angiospermae :-





**Rice**



**Tomato**



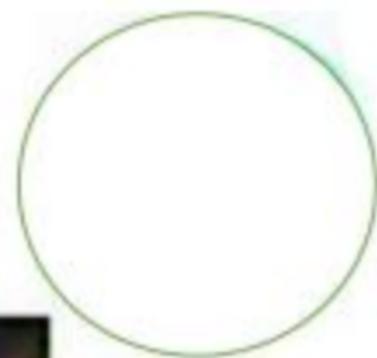
**Lily**



**Apple**



**Magnolia**



## Monocots



One cotyledon



Veins usually parallel



Vascular bundles usually complexly arranged



Fibrous root system



Floral parts usually in multiples of three

Embryos

Leaf venation

Stems

Roots

Flowers

## Dicots



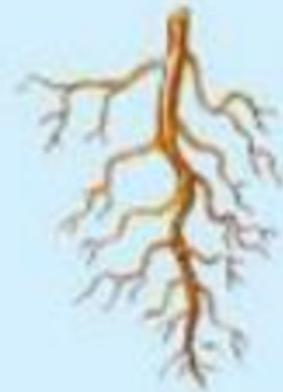
Two cotyledons



Veins usually netlike



Vascular bundles usually arranged in ring



Taproot usually present



Floral parts usually in multiples of four or five

# Nutrition

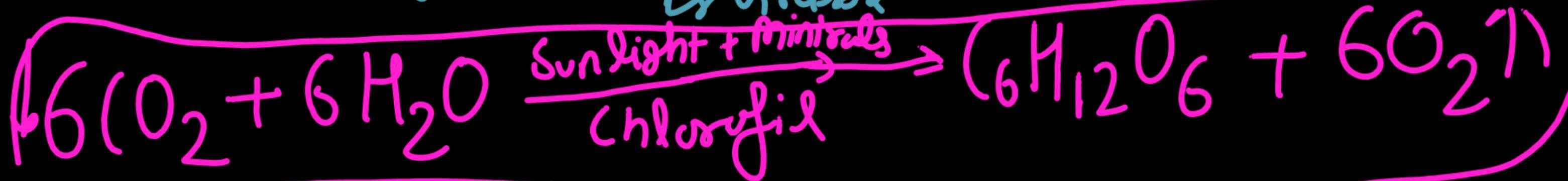
Depend on Itself

Autotropes

Chlorofil (Mg)

- Green Plants
- Algae
- Mosses
- Grasses

Depend on other  
Heterotropes



Leaves

Kelvin Cycle

# Heterotrophes

