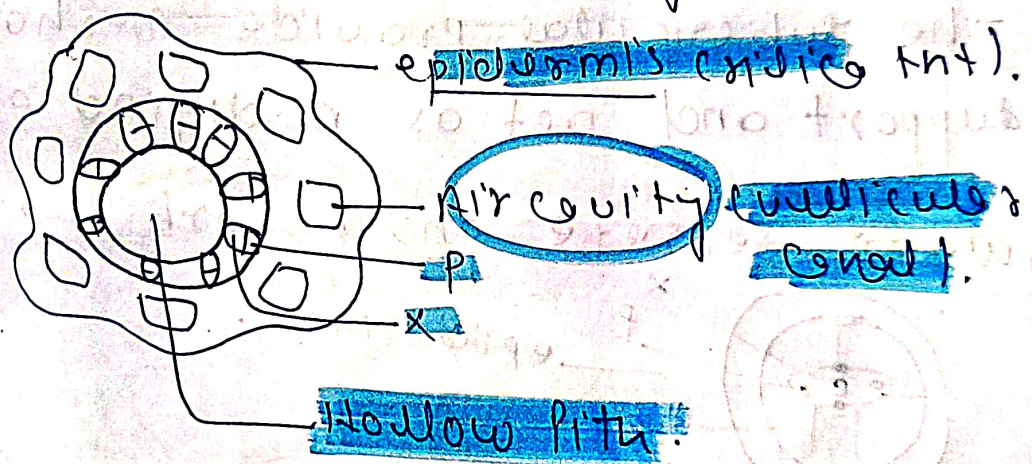


Stem of Lycopodium, Selaginella,
Equisetum, Marselia

Stem of Equisetum.

- (i) covered with sclera.
- (ii) inner cortex have large Air cavities. called vascular canals.
- (iii) Siphonostelic condition. shows the vascular bundle present in ring around pith.
- (iv) Crinal canal (H₂O) conducting present.



Stem of Lycopodium (club moss).

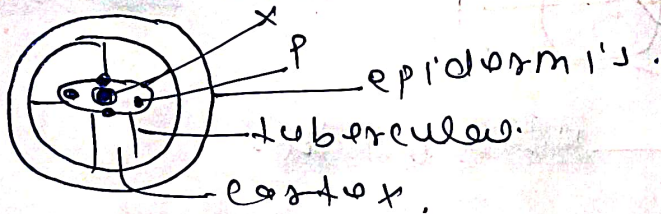
- (i) Stem of Lycopodium is Protostelic.
- (ii) Dichotomously branched

Stem of Sagineae. (Spike moss)

- (i) stem is usually prostrate and upright
- (ii) Casporian strips are present in Endodermis.
- (iii) Protostelic condition
- (iv) exarch xylem (Protoxylem lies at periphery)
- (v) tuberculae $\Rightarrow$ elongated cell extending from endodermis to stele
surround the central cavity of ligule

The tuberculae provide mechanical support and act as modified endodermis.

Ligule $\Rightarrow$ secrete and absorb water.



Marselia petiole.

- ① Aerenchyma present in cortex used for gaseous exchange.
- ② Amphistelic condition.

Marselia sporocarp.

- ① contain 2 sorts, each sort has a microspore and a megaspore.
Indurium (protective layer), Reproduction and Adaptation.
- ② rudition
- ③ Heterospory