

[2.] Phloem : - nt in all tracheophytes. Few types: -

- (i) Companion cells
- (ii) Sieve element
- (iii) Phloem parenchyma
- (iv) Phloem fibers. → Non living.

(i) Companion Cells : - Present only in Angiosperm

- Structural Characters : - Unicellular, Thin walled living str. & nucleus are nt.
- Function : - In food translocation help of Sieve elements.

(2) Sieve elements : - Two types: -

- (a) Sieve Cells (ii) Sieve tubes

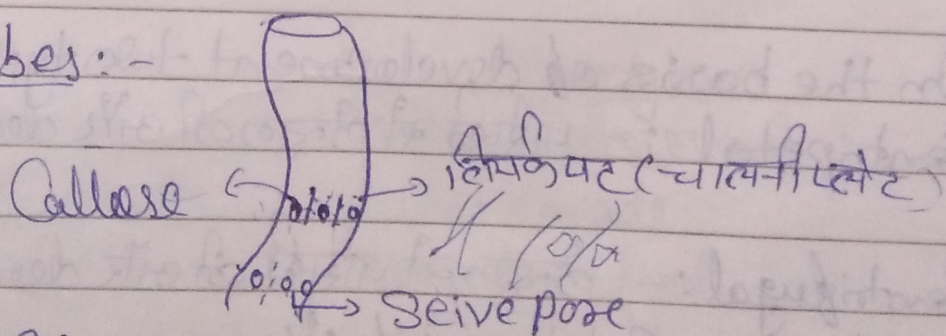
- nt in all tracheophytes.

Function : - Food translocation

- Similar to Companion cells

- Thin walled cells & living str.

(b) Sieve tubes : -



Distribution : -

Sieve tubes are only nt in Angiosperm.
Str. : - tubular str. In mature sieve tubes, nucleus are nt.

इनमें 1. छिन्न भूट पाये जाते हैं। तथा इनमें पाये जाने वाले छिन्न को - चालनी। छिन्न कहते हैं इन। छिन्न पर Callose elements का जमाव हो जाता है

Note:- Callose elements are solubilized in rainy Season.

Function:- Food Storage

⑤ Phloem Parenchyma:- Present as a Simple Parenchyma.

Note:- In monocot Stem phloem Parenchyma is absent.

- Storage of water & food material.

⑥ Fiber:- They become Sclerenchymatous. Dead lignified, also klas bast fibers.

- Function:- Mechanical Support.

Types of Phloem:-

① On the basis of origin:-

(i) Pri. Phloem
From Prochambium

(ii) Sec. Phloem
From Chambium

Function of Phloem:- Translocation of food material.

Specific tissue:-