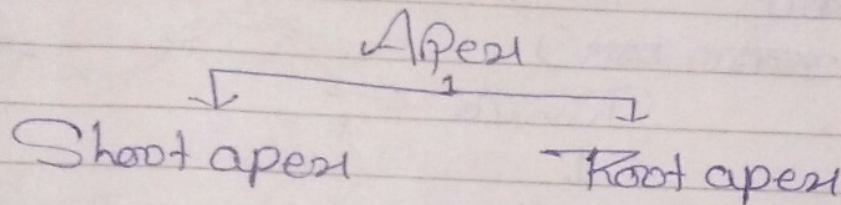
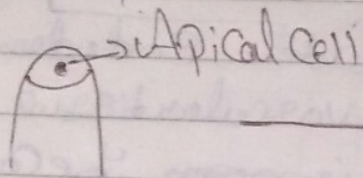


Apex Organization:-



[I.] Shoot apex $\Rightarrow$

① Apical Cell theory:- Haberlandt & Nagali
 According to this theory in the apex part apical cells are int. These are continuously divided & formation of other part.



Lawson plants में ही मान्य उच्चक्रीय पादपों में मान्य नहीं है।

यदि किसी पादप के Apex में एक Apical Cell int है तो इससे

256 Cellular apex बनाने के लिये कितने division की sequence होगी ? $\rightarrow 256 - 1 = 255$

$$\text{No. of Cell division} = \text{Total No. of cells} - 1$$

यदि किसी cell में Sequential division होती है तो 256 cells बनाने के लिए कितनी Division की prerequisite होती है =

Ans:

8 $\rightarrow$ 2-4-8-16-32-64-128-256
1 2 3 4 5 6 7 8

(2) Tunica Corpus theory: - "Strud" रिमंड

Acc to this theory two layers are int on the apical part.

(i) Tunica (आवरण परत)

(ii) Corpus

Tunica

↓
1 Celled thick

↓
Epidermal tissue

Some time tunica is a multilayered:-

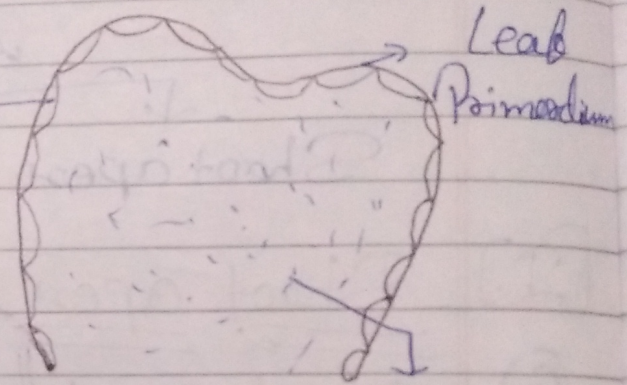
Outer layered $\rightarrow$ Epidermis

Inner layered $\rightarrow$ Hypodermis

↓
Multilayered
Cortex, Endodermis, Pericycle
vascular tissue, Pith.

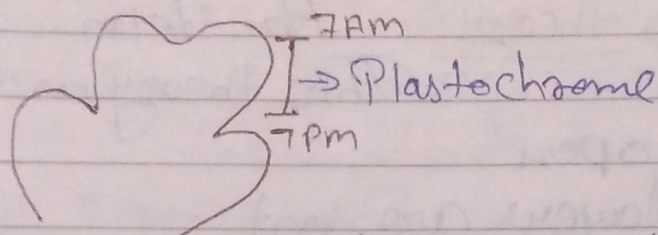
Acc to this theory tunica is now become now with one cell thickening & these are formed epidermal tissue.

NOTE: Sometime tunica is a multilayered $\rightarrow$ In these outer layered forms epidermal part & inner layered forms Outer Cortex.



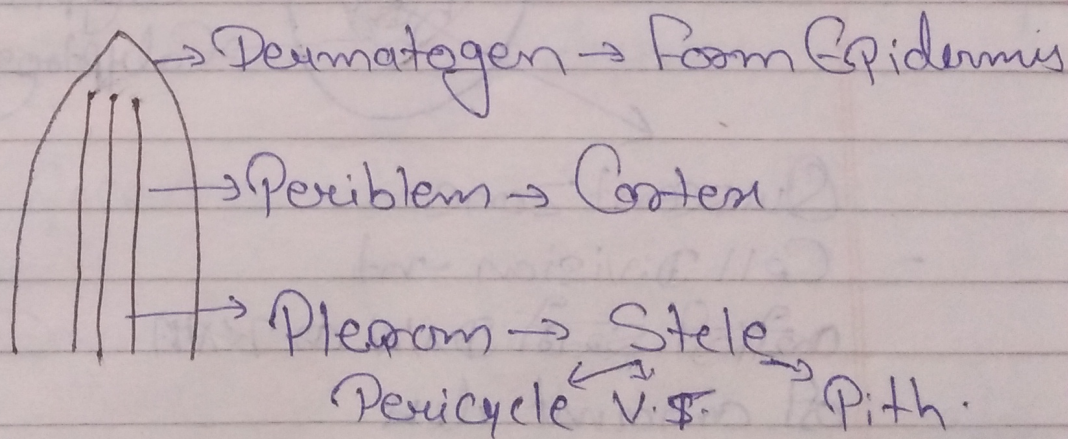
Corpus :- Body part / middle part :- These are multilayered & forms Cortex, endodermis, Pericycle, V.T. & Pith & Embossed part. Tunica से ऊपर हुई Part को leaf primordium कहते हैं These are developed leaves.

Plastochæme :- Two Sequential leaf primordium बनने के बीच लगने वाला समय अन्तराल। Plastochæme कहलाता है ।



These are most valid theory for Shoot apex.

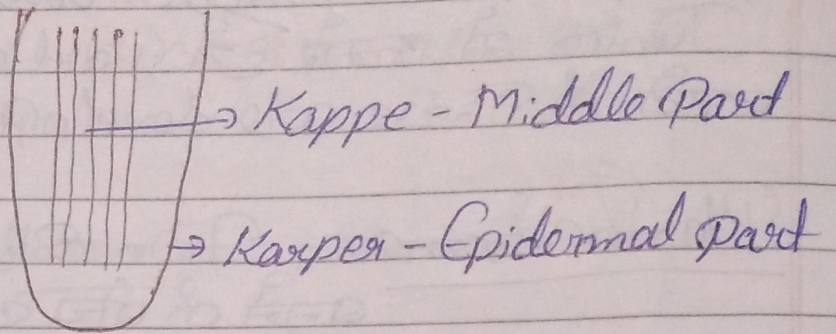
Histogen theory :- Hanstein
A/c to this theory three layers are int on apex part.



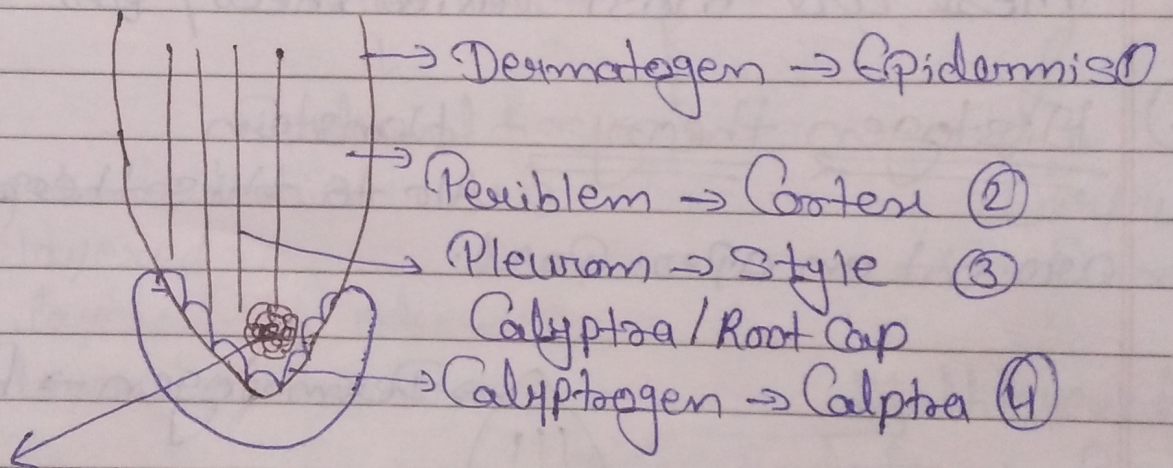
Organization of Root apex :-

Apical Cell theory :- Hanstein & Nageli
Apical Cells are formed apical part
Note valid.

- (2) Karper Kappe theory: - "Ship"
 This theory equi to tunica
 Corpus theory.



- (3) Histogen theory: - "Hanstein"
 This theory is more valid
 for root apex
 → Four layers are int: -



Quiescent zone

- Cell Division -nt
 most DNA & RNA
 of amount less

→ On the apical part of root, meristematic
 region is klas Sub-apical.