Reproduction

A] Vegetative Reproduction

1. By progressive death and decay of thallus.

→ When gradual death and decay of posterior part of thallus reaches to the point of dichotomy.

→ In Anthoceros, this process of multip-lication is less common than in other liverworts.

2. By tubers

→ These are formed during unfavourable conditions of prolonged droughts

→ They store food and also function as perennating organs.

→ The tubers have outer protective corky layer, and hence can resist extreme desication.

→ They remain alive even after the death of the thallus.

3. By gemmae
→ These structures are stalked on the dorsal surface of thallus.

→ On separation from parent thallus gemmae give rise to new plants.

4. By persistent growing apices.
→ Species like A. pearsoni and A. fusiformis grows in dry areas.

→ These apical past remain dormant during dry conditions and become active in favourable conditions.

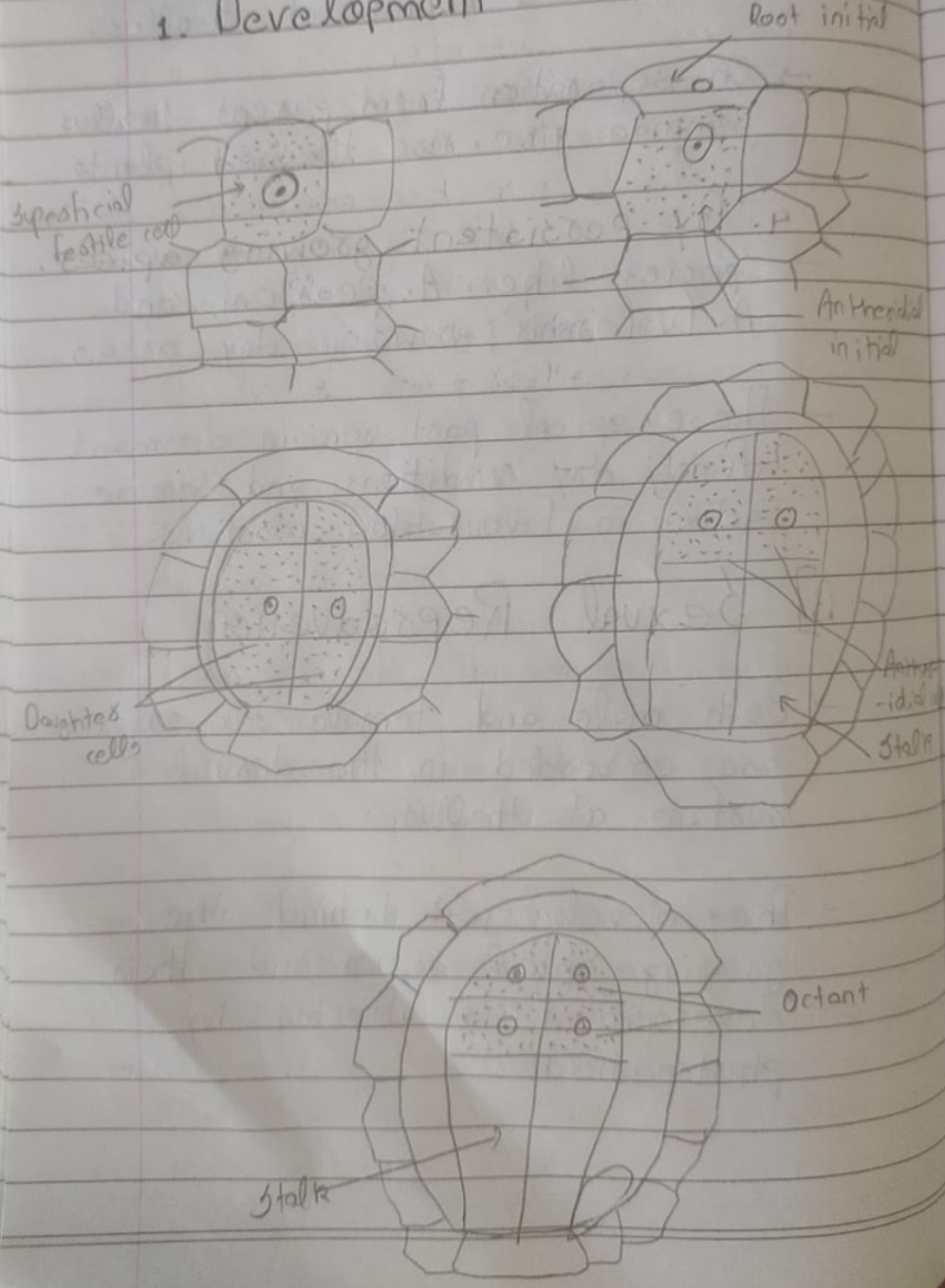
B] Sexual Reproduction

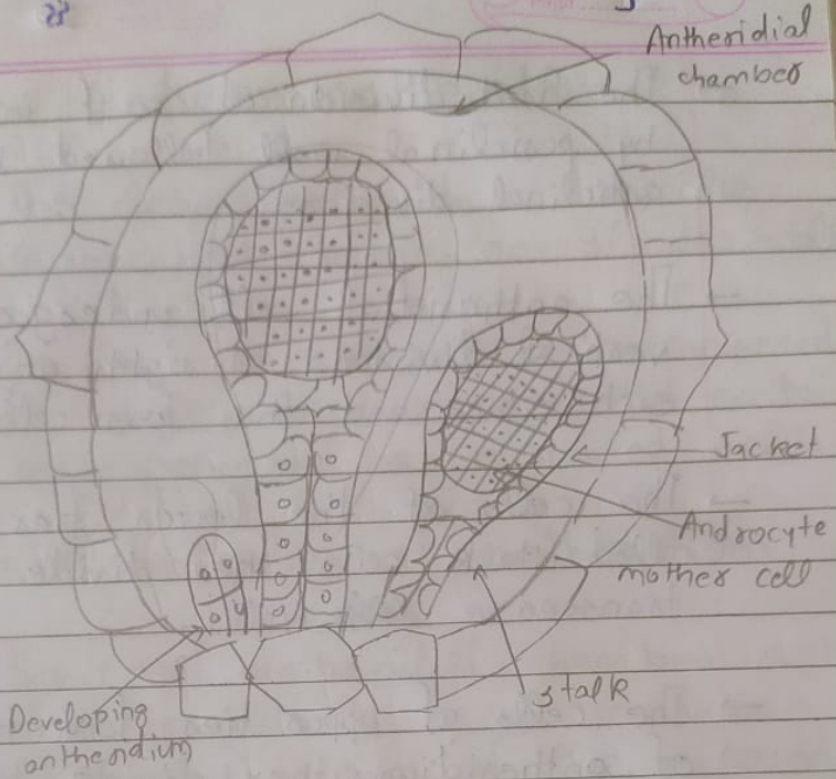
→ Both male and female sex organs are embedded in the dorsal surface of thallus.

→ They develop just behind the growing apical region and their development is affected by photoperiod.

I] Antheridium

1. Development





→ Antheridia occur singly or in groups within closed cavities known as antheridial chambers.

→ A superficial cell lying close to the growing apex divides by a periclinal wall into an outer roof initial and inner antheridial initial.

→ A mucilagenous cavity soon develops between the roof initial and antheridial initial and cavity enlarges to form antheridial chamber.

→ The first division of roof initial is by periclinal wall followed by many anticlinal divisions.

→ The antheridial cell undergoes two vertical divisions at right angles to each other and thus four cells formed.

→ The cells of the lower tier are called stalk cells, they divide by transverse ~~cells~~ walls.

→ The cells of upper tier form the body of antheridium, they divide by a transverse wall and form 8 cell octant.

→ Each cell of the octant then divides by a curve periclinal wall eight outer jacket cells are differentiated in inner primary androgonial cells.

→ The primary androgonial cells undergo many regular divisions to form a mass of androcyte mother cells.