APOMIXIS

INTRODUCTION → The life cycle of angio-sperms consists of two phases like other plants. These are the haploid and diploid phases. The gametophytic generation in angeosperm are very short and are represented by embryo sac on the female side and pollen grain on the male side. ~~and pollen grain on the male side~~ The remaining part of the life cycle belongs to the sporophytic generation. The two phases follow each other in the life cycle. This is called alternation of generations. It is maintained through two important processes Meiosis and fertilization. But in plants sexual cycle does not occurs They have only Asexual phases. It is called Apomixis.

DEFINITION → The phenomenon in which the usual sexual reproduction has been completely replaced by a type of Asexual reproduction are called Apomixis and the plant as Apomictic It was noticed for the first time by Winkler (1908).

TYPES OF APOMIXIS → There are two classes of apomixes.
1. Vegetative reproduction.
2. Agamospermy

1. Vegetative reproduction → In this type the plant propogate by a part of there body other than the seed The propagates are formed outside the floral regions despite the occurr-ence of functional sex organs. This occurs in Agave, Elodea and others In some cases the plants are sexually sterile and the floral propagales are formed outside the floral regions such as in Lilium, Fritillaria and other.

2. Agamospermy → The plants belong-ing to this class have seed as the agent of propagation. But the embryo is formed by some ~~cases~~ processes in which normal Meiosis and ferti-lization has eliminated. It is of three sub types.

(a) Adventive embryony → The Agamo-sperm embryo arise directly from the nuellus or from the integument Embryo sac develop normally but normal embryo degenerate.
Ex - Member of the family Orchidaceae

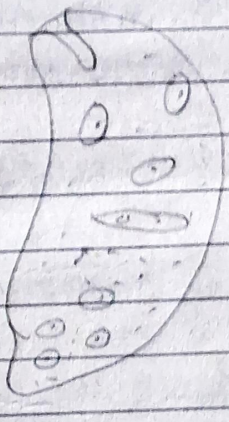
and Myrtaceae.

(b) Diplospori → In this type there differentiation of the archesp but megaspore mother cell dev into an unreduced embryo sa The embryo is formed by unfe -lized egg.

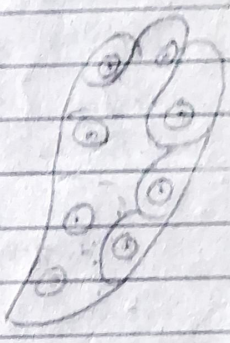
Ex - Aerva, Ixeris, Parthenium

(c) Apospory → In this case the c of nucellus directly forms redu embryo sac. The diploid egg parthenogenetically develops embryo.

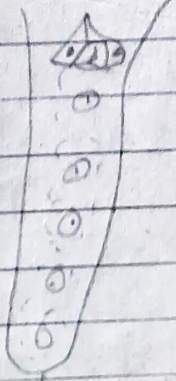
Ex - Rubus, Crepis, Poa and o



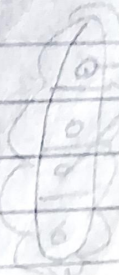
Diplosporic embryo in Ixeris



Diplosporic e in Taraxa



Diplosporic embryo in Hieracium



Aposporic em in Hieraci