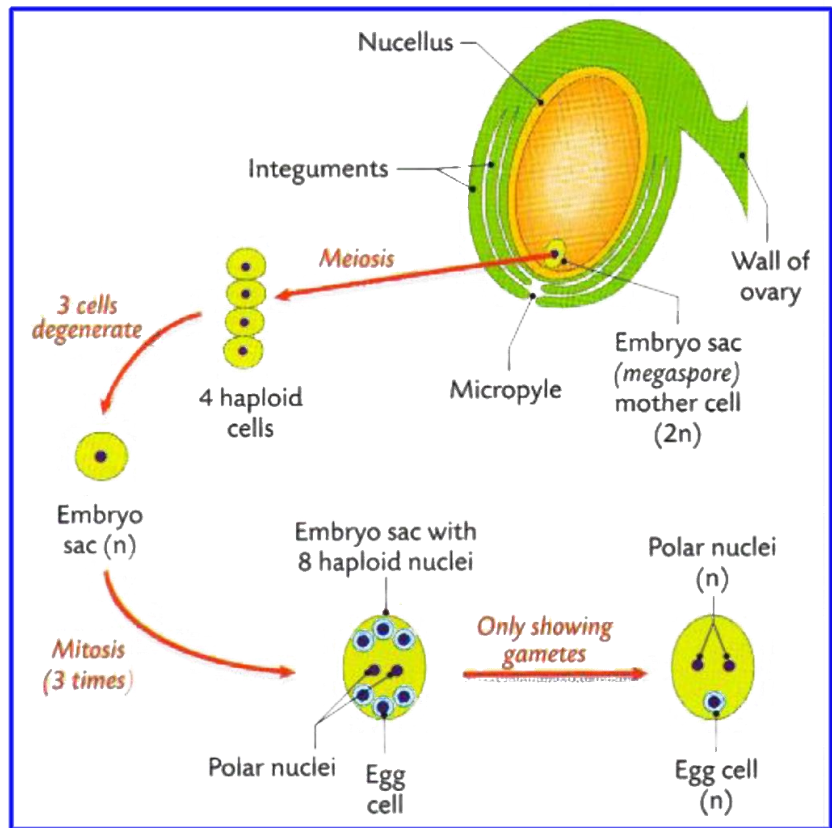
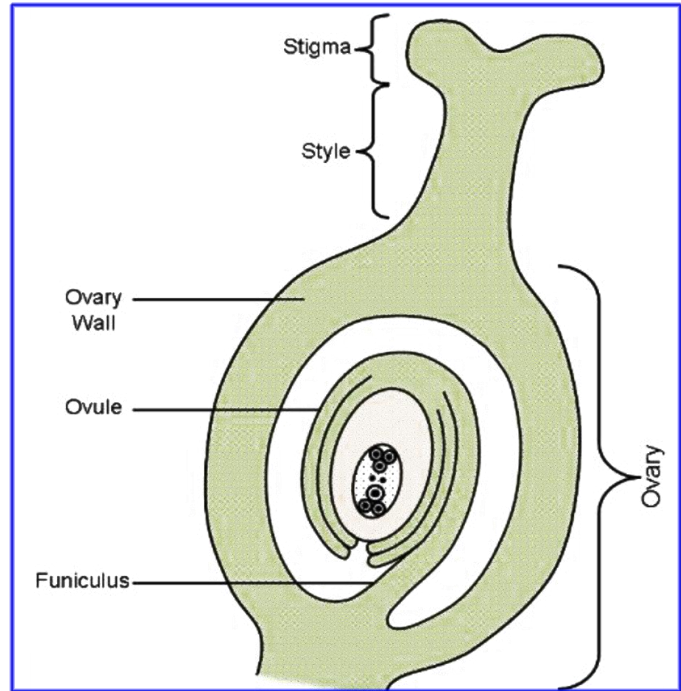
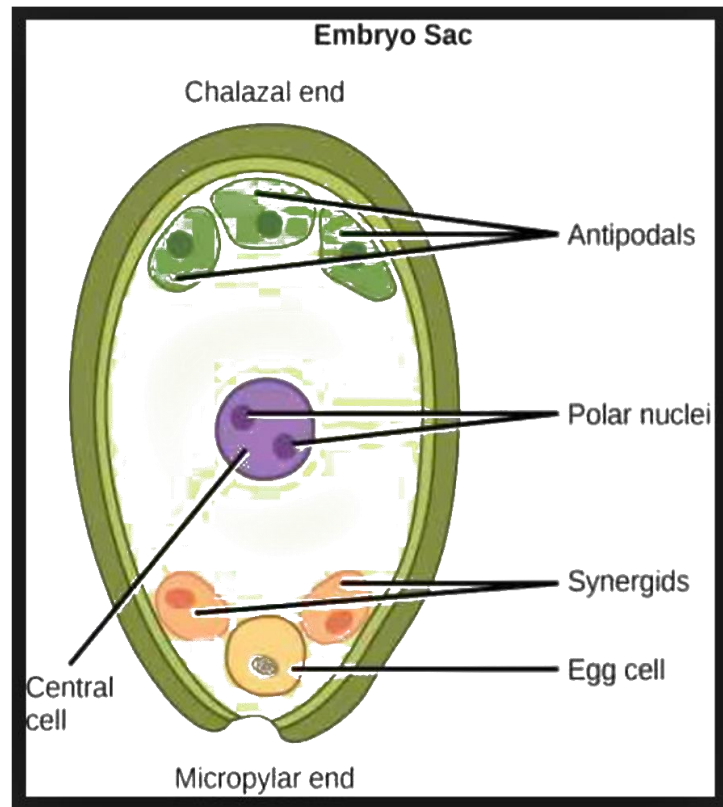
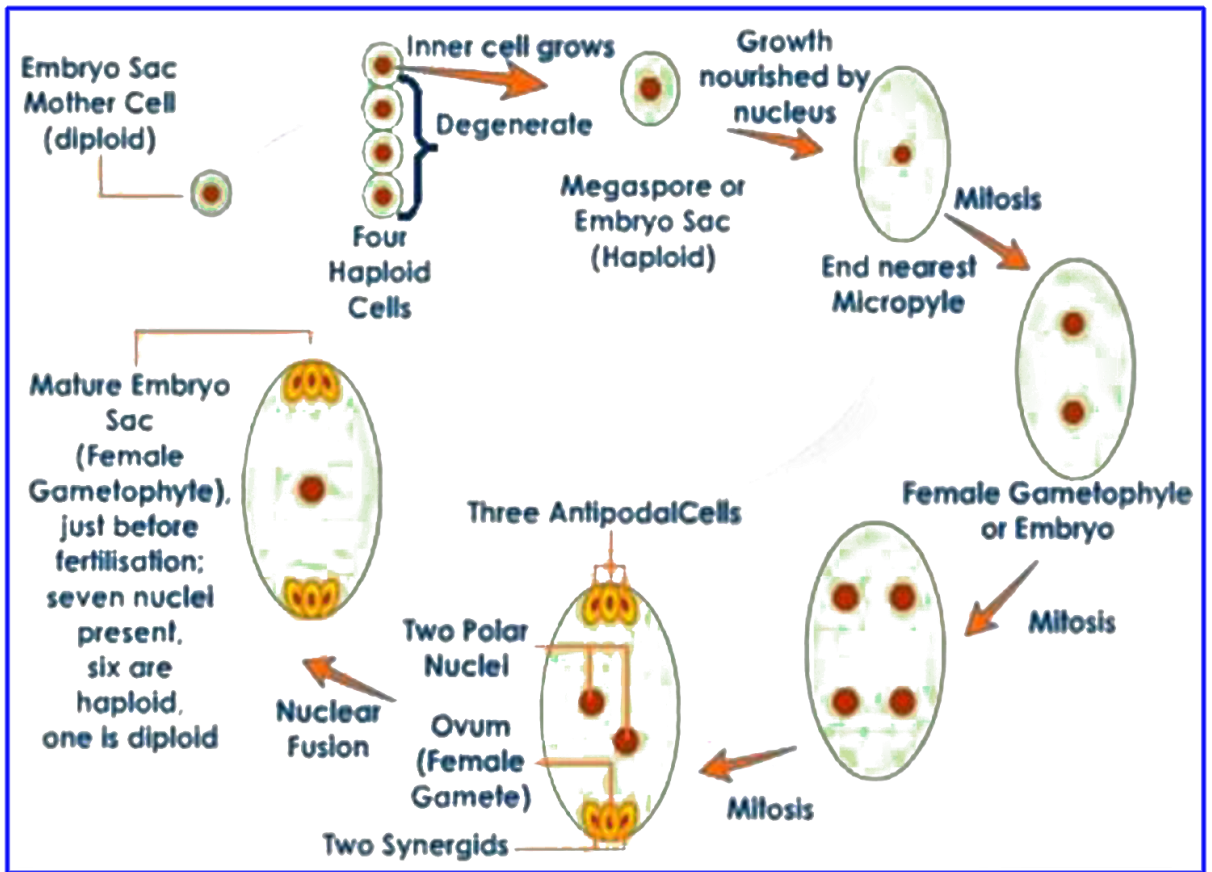


# Pistil





**Q. The largest cell of the mature embryo sac is**

- A. Antipodal cells**
- B. Synergids**
- C. Central cell**
- D. Egg cell**

**Q. Functional megaspore in an angiosperm develops into**

**[NEET-2017]**

- A. Ovule**
- B. Endosperm**
- C. Embryo sac**
- D. Embryo**

**Q. In majority of angiosperms**

**[NEET (Phase-2)-2016]**

- A. Egg has a filiform apparatus**
- B. There are numerous antipodal cells**
- C. Reduction division occurs in the megaspore mother cells**
- D. A small central cell is present in the embryo sac**

**Q. The ovule of an angiosperm is technically equivalent to**

**[NEET (Phase-2)-2016]**

- A. Megasporangium**
- B. Megasporophyll**
- C. Megaspore mother cell**
- D. Megaspore**

**Q. Filiform apparatus is characteristic feature of :**

**[Re-AIPMT-2015]**

- A. Synergids**
- B. Generative cell**
- C. Nucellar embryo**
- D. Aleurone cell**

**Q. In angiosperms, microsporogenesis and megasporogenesis**

**[Re-AIPMT-2015]**

- A. Occur in ovule**
- B. Occur in anther**
- C. Form gametes without further divisions**
- D. Involve meiosis**

**Q. The arrangement of the nuclei in a normal embryo sac in the dicot plants is**

**[AIPMT (Prelims)-2006]**

- A. 2 + 4 + 2**
- B. 3 + 2 + 3**
- C. 2 + 3 + 3**
- D. 3 + 3 + 2**

**Q. In angiosperms, functional megaspore develops into**

**[AIPMT (Mains)-2011]**

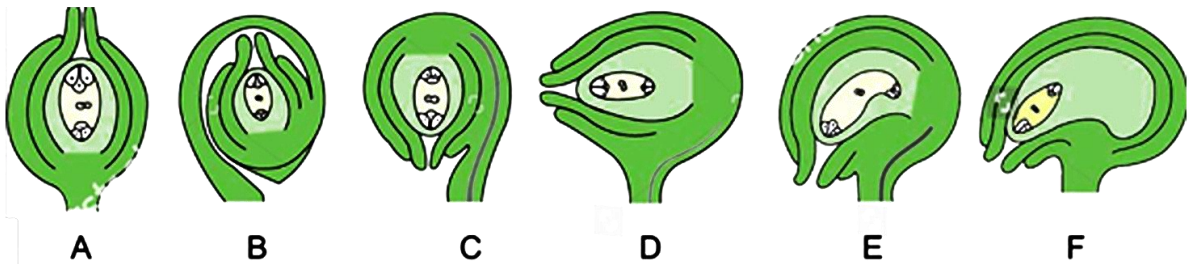
- A. Endosperm**
- B. Pollen sac**
- C. Embryo sac**
- D. Ovule**

Q. What is the correct sequence of the formation of female gametophyte in angiosperms?

AIIMS 2015

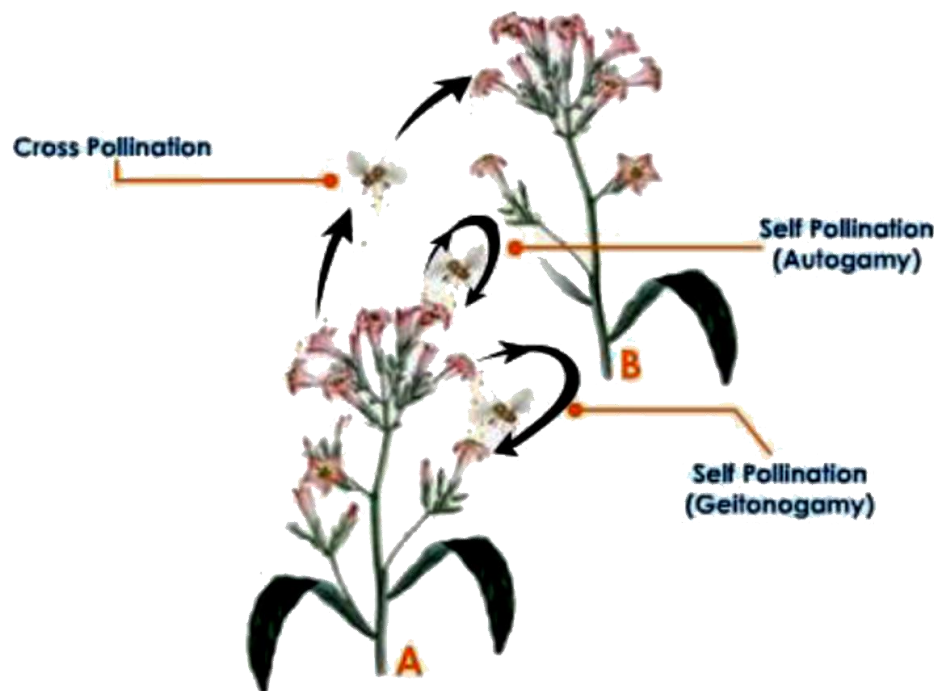
- A. Nucellus, megaspore tetrad, megaspore mother cell, megaspore, female gametophyte
- B. Megaspore tetrad, nucellus, megaspore mother cell, megaspore, female gametophyte
- C. Nucellus, megaspore mother cell, megaspore tetrad, megaspore, female gametophyte
- D. Megaspore mother cell, megaspore tetrad, megaspore, nucellus, female gametophyte

### Types of Ovules



**Types of ovule.** A, Orthotropous ; B, Circinotropous ; C, Anatropous ; D, Hemianatropous; E, Amphitropous; F, Campilotropous

## Pollination :



### **Adaptations seen for Self pollination :**

- 1) Bisexuality
- 2) Homogamy
- 3) Cleistogamy

**Eg :** *Arachis hypogea*

Advantages of Cleistogamy includes seed formation in absence of pollinating agent

- 4) Bud pollination



**Q. Geitonogamy is**

- A. Genetically autogamous**
- B. Ecologically autogamous**
- C. Genetically allongamous**
- D. Functionally autogamous**

**Q. The type of pollination which brings genetically different type of pollen on the stigma is**

- A. Autogamy**
- B. Xenogamy**
- C. Geitonogamy**
- D. Cleistogamy**

**Q.** Which one of the following may require pollinators, but is genetically similar to autogamy?

- A.** Cleistogamy
- B.** Geitonogamy
- C.** Xenogamy
- D.** Apogamy

**Q.** Geitonogamy involves

- A.** Fertilization of a flower by the pollen from another flower of the same plant
- B.** Fertilization of a flower by the pollen from the same flower
- C.** Fertilization of a flower by the pollen from a flower of another plant in the same population
- D.** Fertilization of a flower by the pollen from a flower of another plant belonging to a distant population

## **Agents of Pollination :**

1) Abiotic

2) Biotic

### **Abiotic Agents :**

1) Wind (Anemophily) : more common amongst abiotic pollinations

Characteristics of wind pollinated plants :

1) Pollen grains are light and nonsticky

2) Well exposed stamen

3) Large feathery stigma

4) Nectaries absent

5) Single ovule in the ovary

6) Flowers packed into inflorescence

**Examples :** Quite common in grasses

Maize

Wheat

Sugarcane

Bamboo

**Q.** Flowers which have single ovule in the ovary and are packed into inflorescence are usually pollinated by

[NEET-2017]

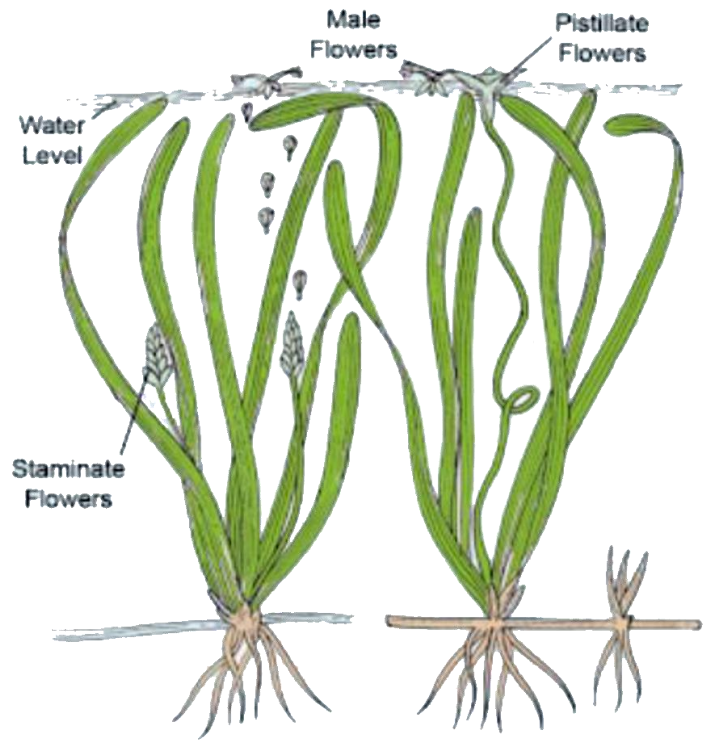
- A. Water
- B. Bee
- C. Wind
- D. Bat

**Water ( Hydrophily ) :**

Quite rare in flowering plants and limited to 30 genera, mostly monocots

On the surface of water (Epihydrophily) :

**E.g. Vallisneria**



**Beneath the surface of water  
( Hypohydrophily ) :**

**E.g. Zostera**

In a majority of aquatic plants , the flowers emerge above the level of water and are pollinated by insects or wind . E.g Water hyacinth and water lily



**Q.** Examples of water pollinated flower are

**A.** Zostera, Lotus, water lily

**B.** Lotus, Vallisneria, Hydrilla

**C.** Potamogeton, Vallisneria, Lotus

**D.** Vallisneria, Hydrilla, Zostera

**Q.** Hydrophily is limited to 30 genera which are mostly

- A.** Gymnosperms
- B.** Monocots
- C.** Dicots
- D.** More than one option is correct

**Q.** Pollination in water hyacinth and water lily is brought about by the agency of

[NEET (Phase-2) 2016]

- A.** Water
- B.** Insects or wind
- C.** Birds
- D.** Bats

### **Biotic Agents :**

Majority of flowering plants use a range of animals as pollinating agent. Bees , Butterflies , Flies , beetles , Wasp , Ants , Moth , birds and bats are common pollinating agents

### **Insects ( Entomophily ):**

Most common biotic agents

Bees are the most common insects , other are butterflies , flies , beetles , wasps , ants , moths

### **Characteristics features :**

Large sized flowers

Colourful , fragrant

Nectaries

Sticky pollen grain

Foul ordered flowers if pollinated by flies and beetles

**E.g :** Yucca , Salvia , Ficus , Calotropis



**Q.** Which of the following is not a characteristic feature of insect pollinated flowers?

**A.** Fragrance

**B.** Nectaries

**C.** Foul odour

**D.** Mucilaginous covering on pollen grains

**Q.** Attractants and rewards are required for

[NEET-2017]

**A.** Anemophily

**B.** Entomophily

**C.** Hydrophily

**D.** Cleistogamy