

P.K. Com & Sci. Jr. College Chakan.

Std- 12th

sub- Biology

marks- 20

Time- 1hr.

Tutorial No. 1.

Topic:- Reproduction in Lower & higher plants.

Section :- A

Q1) In ovule, meiosis occurs in

a) Nucellus

c) megaspore

b) Integument

d) megaspore mother cell.

→ d) megaspore mother cell.

Q2) Find odd one

a) Nucellus

b) Embryo sac

c) micropyle

d) pollen grain.

→ d) pollen grain

Q3) What is function of filiform apparatus?

→ The function of filiform apparatus is to guide the pollen tube towards the egg cell.

Q4) Define pollination.

→ Transfer of pollen grain from anther to stigma of flower is called as pollination.

Section: B.

* Write the answer of the following (any 3)

Q5) Write difference between Asexual and sexual reproduction.

Asexual reproduction	sexual reproduction.
1) It need only male or female parent.	It need both male and female parent.
2) In the asexual reproduction no gametes are produced.	In the sexual reproduction male & female gametes are produced.
3) It required meiotic division followed by mitotic division.	It requires only the mitotic division.
4) Example: Budding in hydra	

Q8) Incompatibility is a natural barrier in the fusion of gametes. How will you explain this statement.

→ 1) self incompatibility is a genetic mechanism that prevent germination of pollen on stigma of same flower.

2) In pollen-pistill interaction, when pollen grain is deposited on stigma, pistill has the ability to recognize germination of pollen.

3) special type of protein on stigma surface determine compatibility or incompatibility.

Q9) How polyembryony can be commercially exploited?

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- polyembryony may be defined as the occurrence of two or more embryos in one ovule.
 - which consequently result in the emergence of the multiple seedlings.
 - It can be commercially exploited disease free plant can be obtain by this method.
 - It is also increases the probability of ~~survival~~ survival under varied condition.

section:- C

* write the answer of following (any 2)

Q10) Explain the steps of endosperm in detail.

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- The triploid primary endosperm nucleus repeatedly divides mitotically to form nutritive tissue is called as "Endosperm".
 - There are three types of endosperm i) Nuclear type, ii) cellular type iii) Helobial type.

1) Nuclear Type:-

It is most common type found in 161 angiospermic families. The primary endosperm nucleus repeatedly divides mitotically without wall formation to produce large number of free nuclei.

2) cellular Type:-

In some plant, division of triploid primary endospermic nucleus is immediately followed by wall formation. It is mostly observed in 72 families of dicots.

3) Halobial type:-

It occur in the order Halobiales of the monocotyledon. The smaller cell is called as chalazal

cell and larger cell is the micropylar cell. It is an intermediate between cellular and nuclear type endosperm.

013) Write note on development of male gametophyte.

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- pollen grain marks the beginning of male gametophyte. It undergoes first mitotic division to produce bigger naked vegetative cell and small, thin walled generative cell.
 - It is rich in food and having irregular shaped nucleus. It floats in the cytoplasm of vegetative cell.
 - The second mitotic division is concerned with generative cell only and give rise to two non-motile male gametes.
 - The mitotic division of generative cell takes place either in pollen grain or pollen tube.
 - The pollen grains are shed from the anther, at this two-celled stage in most of the angiosperm.
 - This is the process of development of male gametophyte.

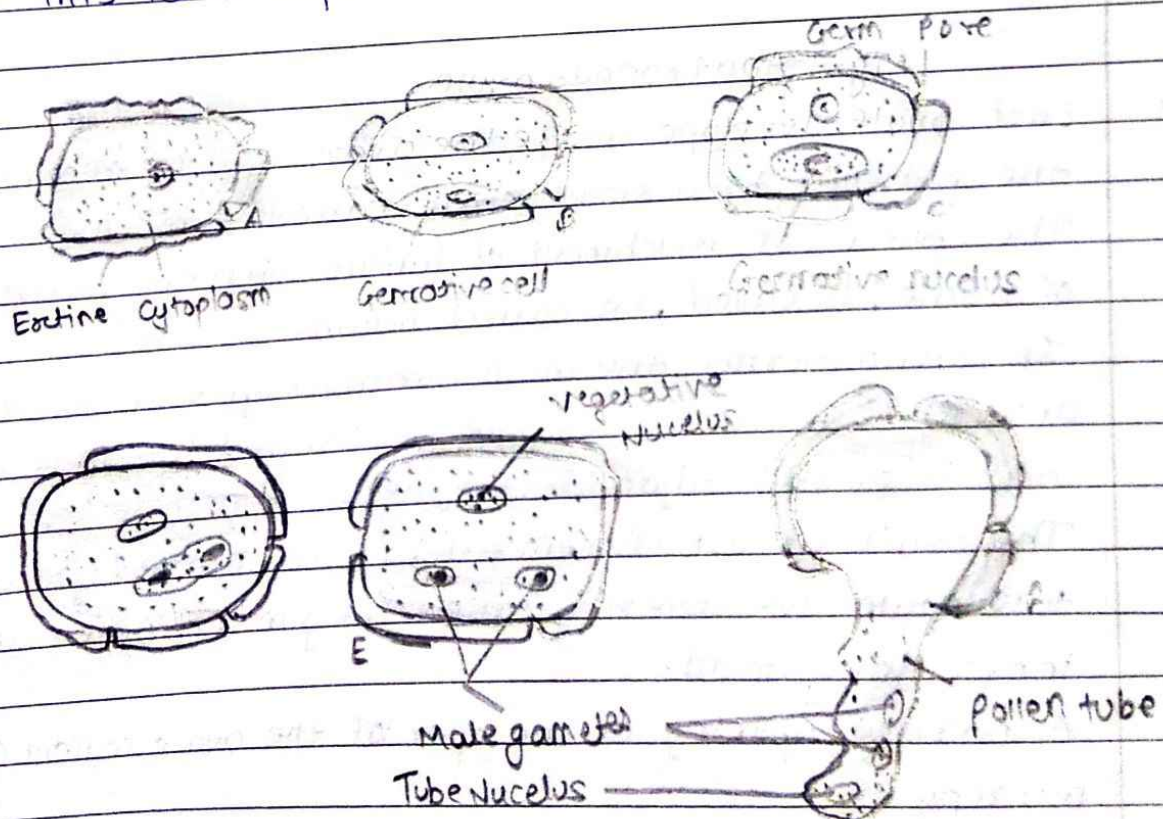


Fig. Development of male gametophyte.

Section:- D.

* Answer the following (any 1)

Q15) Explain anatropous ovule in detail.

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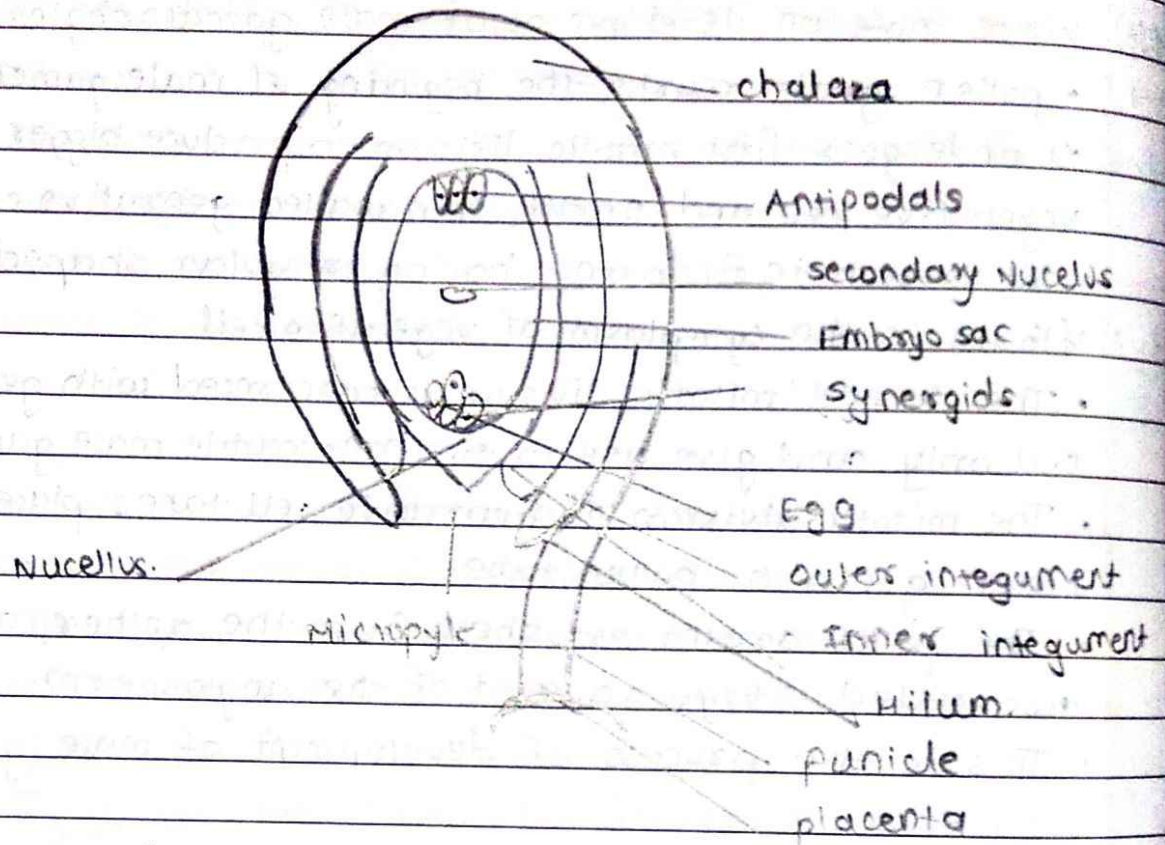


Fig:- Anatropous ovule.

- Each ovule develops inside the ovary and is attached to the placenta by a small stalk called funiculus.
- The place of attachment of funiculus with the main body of ovule, is called, is called hilum.
- In angiosperms, the most common type of ovule is anatropous in which micropyle is directed towards the base and is present adjacent to the funiculus (funicle)
- The ovule consists of central part surrounded usually by two protective covering called integument, outer and an inner integument.
- A narrow opening at the apex of the ovule called ~~chala~~ micropyle.

- Chalazal is the base of ovule directly opposite to micropyle. Embryo sac (female gametophyte) is oval multicellular structure embedded in the nucellus.