

BIOLOGY • CLASS 12

1

CHAPTER

Sexual Reproduction in Flowering Plants

NCERT SOLUTIONS



EXERCISE SOLUTIONS: QUESTIONS 1-2

1. Name the parts of an angiosperm flower in which development of male and female gametophyte take place.

Answer:

Male gametophytes (pollen grains) develop in the microsporangia, or pollen sacs, of the anther.
The female gametophyte (embryo sac) develops in the nucellus of an ovule inside the ovary.

2. Differentiate between microsporogenesis and megasporogenesis. Which type of cell division occurs during these events? Name the structures formed at the end of these two events.

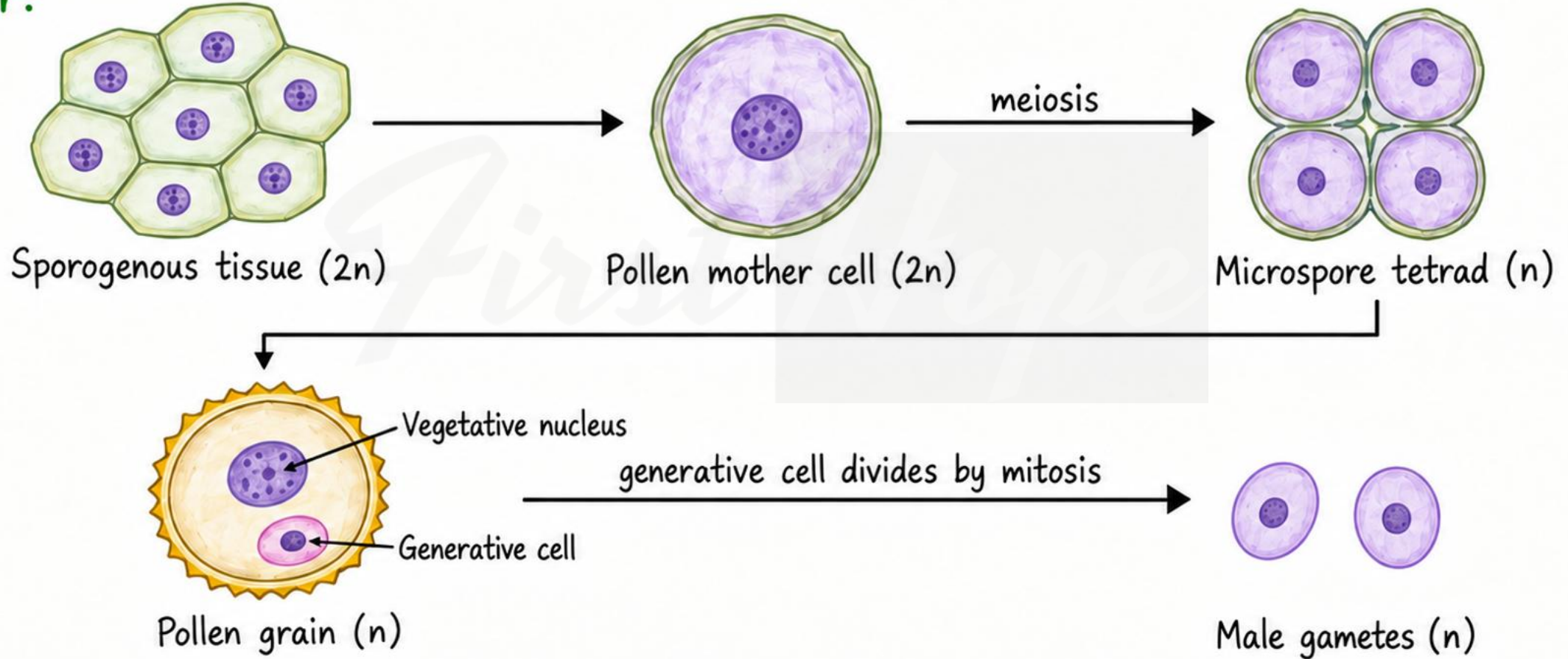
Answer:

Feature	Microsporogenesis	Megasporogenesis
Site	Microsporangium in anther	Nucellus of ovule
Mother cell	Pollen mother cell ($2n$)	Megaspore mother cell ($2n$)
Process and product	Meiosis forms a tetrad of four haploid microspores (n)	Meiosis forms four haploid megaspores (n)
Usual fate	Microspores develop into pollen grains	One megaspore forms the embryo sac; three degenerate

EXERCISE SOLUTION: QUESTION 3

3. Arrange the following terms in the correct developmental sequence: Pollen grain, sporogenous tissue, microspore tetrad, pollen mother cell, male gametes.

Answer:

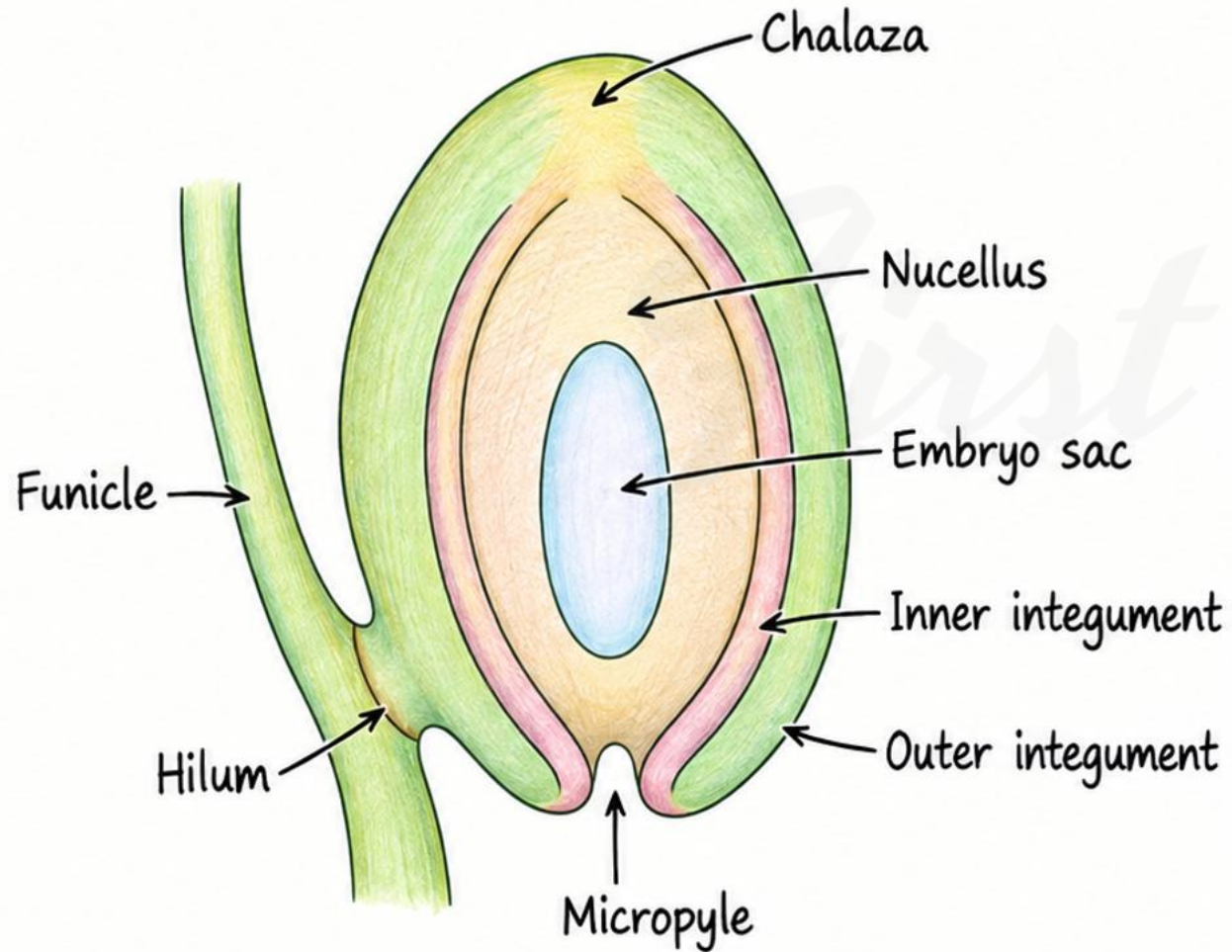


Microspores separate and develop into pollen grains. The generative cell produces two male gametes.

EXERCISE SOLUTION: QUESTION 4

4. With a neat, labelled diagram, describe the parts of a typical angiosperm ovule.

Answer:



- **Funicle:** stalk that attaches the ovule to the placenta.
- **Hilum:** junction of the funicle and ovule body.
- **Integuments:** protective coverings around the nucellus.
- **Micropyle:** small opening in the integuments through which the pollen tube usually enters.
- **Nucellus:** tissue with reserve food around the embryo sac.
- **Embryo sac:** female gametophyte inside the nucellus.
- **Chalaza:** basal region opposite the micropyle.

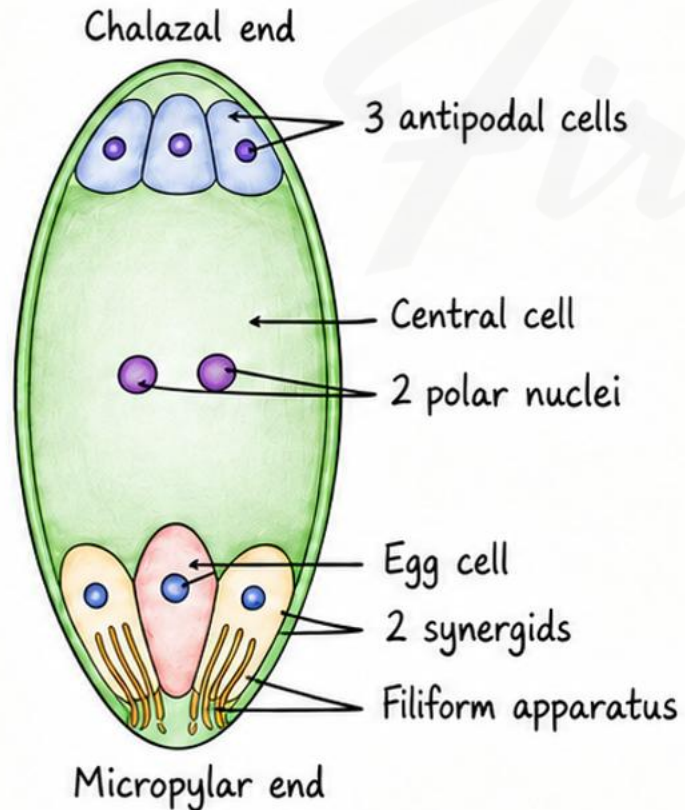
EXERCISE SOLUTIONS: QUESTIONS 5-6

5. What is meant by monosporic development of female gametophyte?

Answer: It is the development of the embryo sac from one functional megaspore. Usually, three of the four megaspores degenerate. The nucleus of the functional megaspore undergoes three mitotic divisions to form eight nuclei.

6. With a neat diagram explain the 7-celled, 8-nucleate nature of the female gametophyte.

Answer:



Egg apparatus: 1 egg + 2 synergids = 3 cells, 3 nuclei.

Antipodals: 3 cells, 3 nuclei.

Central cell: 1 cell, 2 nuclei.

Total = 7 cells and 8 nuclei.

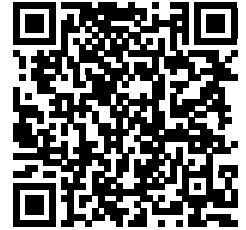


FREE PREVIEW

[Click here to visit our website](#)

SCHOOL NOTES & NCERT SOLUTIONS

Complete notes and
NCERT solutions are
available on
FirstHope app only.



[Scan or click here](#)

Click here to get the app



Available on Google Play

JOIN THE FIRSTHOPE COMMUNITY

Join our Telegram channel

Click here to join Telegram



[Scan or click here](#)

@FirstHope_CBSE_Notes

Instagram

@firsthope.school

[Click here to follow >](#)

YouTube channel

@firsthope.school

[Click here to watch >](#)

FirstHope website

firsthope.co.in

[Click here to visit our website >](#)

CBSE / Class 9 / Class 10 / Class 11 / Class 12

Preview notes and NCERT solutions. Full PDFs in the FirstHope app.