



## Chapter 1: Sexual Reproduction in Flowering Plants

### Quick revision: One-liner questions and answers

1. What is the reproductive part of a flowering plant? - The flower.
2. What is the male part of a flower called? - The Androecium.
3. The androecium is made of what units? - Stamens.
4. A stamen has which two parts? - The anther and the filament.
5. What part of the anther makes pollen? - The microsporangium (or pollen sac).
6. What is the ploidy of a microspore mother cell? - Diploid (2n).
7. How do microspore mother cells form microspores? - Through meiosis.
8. What is the ploidy of a pollen grain? - Haploid (n).
9. What is the hard outer layer of pollen? - The exine.
10. What tough material makes the exine? - Sporopollenin.
11. What is the thin inner layer of pollen? - The intine.
12. Name the two cells in a mature pollen grain. - The vegetative cell and generative cell.
13. Which pollen cell is larger and forms the pollen tube? - The vegetative cell.
14. Which pollen cell forms the two male gametes? - The generative cell.
15. What is the female part of a flower called? - The Gynoecium (or pistil).
16. A pistil has which three parts? - Stigma, style, and ovary.
17. Which part of the pistil catches pollen? - The stigma.
18. What structure is found inside the ovary? - The ovule.
19. After fertilization, what does the ovule become? - The seed.
20. What sac inside the ovule holds the egg cell? - The embryo sac.
21. What is the ploidy of a megasporangium? - Diploid (2n).
22. Meiosis of a megasporangium produces how many megasporangia? - Four.
23. How many of the four megasporangia usually survive? - Only one.
24. A typical embryo sac has how many cells and nuclei? - 7 cells, 8 nuclei.
25. Name the three cells at the micropylar end. - One egg cell and two synergids.
26. What do we call the egg cell and its two synergids? - The egg apparatus.
27. Name the three cells at the opposite (chalazal) end. - The antipodal cells.
28. What is the large cell in the middle of the embryo sac? - The central cell.
29. What two nuclei are in the central cell? - The two polar nuclei.
30. What is the transfer of pollen to a stigma called? - Pollination.
31. Pollination within the same flower is called what? - Autogamy.
32. Pollination between flowers on the same plant is called what? - Geitonogamy.
33. Pollination between flowers on different plants is called what? - Xenogamy.
34. What is pollination by wind called? - Anemophily.
35. What is pollination by insects called? - Entomophily.
36. What is pollination by water called? - Hydrophily.
37. Can the male gametes in flowering plants swim? - No, they are non-motile.
38. What tube grows from the pollen grain to the ovule? - The pollen tube.
39. How many male gametes does the pollen tube deliver? - Two.
40. What is the fusion of a male gamete and the egg cell? - Syngamy (fertilization).
41. Syngamy results in what new cell? - The zygote.
42. What is a zygote's ploidy? - Diploid (2n).
43. What is the second fertilization event in angiosperms? - Triple fusion.
44. What three nuclei fuse during triple fusion? - One male gamete and two polar nuclei.
45. Triple fusion forms what special nucleus? - The Primary Endosperm Nucleus (PEN).
46. What is the endosperm's ploidy? - Triploid (3n).
47. What do we call syngamy and triple fusion happening together? - Double fertilization.
48. What is the main job of the endosperm? - To feed the growing embryo.
49. The zygote grows into what structure? - The embryo.
50. What part of the ovule becomes the seed coat? - The integuments.
51. After fertilization, what does the ovary become? - The fruit.
52. What do we call a fruit that forms without fertilization? - A parthenocarpic fruit.
53. The banana is a natural example of what? - Parthenocarpy.
54. A fruit that develops only from the ovary is a what? - A true fruit.
55. A fruit that develops from more than the ovary is a what? - A false fruit.
56. The apple is a common example of what kind of fruit? - A false fruit.
57. An embryo developing from an unfertilized egg is called what? - Parthenogenesis.
58. What is it called when seeds form without any fertilization? - Apomixis.
59. What do we call it when a single seed has multiple embryos? - Polyembryony.
60. Polyembryony is common in which type of fruit? - Citrus fruits.