



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? **- Only 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? **- Parthenocarpic fruit.**
53. The banana is a natural example of what? **- A parthenocarpic fruit.**
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.**