



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 megaspore mother cell? - **Diploid (2n).**
22. Meiosis of a megaspore mother cell produces how many megaspores?
- **Four.**
23. How many of the four megaspores 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.**