



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.