

Sexual Reproduction in flowering plants

Objective Type Questions

1 x 10 = 10

Q1. Embryo sac is to ovule as _____ is to an anther.

- a. Stamen b. Filament c. Pollen grain d. Androecium

Q2. The outermost and innermost wall layers of microsporangium in an anther are respectively:

- a. Endothecium and tapetum b. Epidermis and endodermis
c. Epidermis and middle layer d. Epidermis and tapetum

Q3. Autogamy can occur in a chasmogamous flower if:

- a. Pollen matures before maturity of ovule
b. Ovules mature before maturity of pollen
c. Both pollen and ovules mature simultaneously
d. Both anther and stigma are of equal lengths

Q4. A particular species of plant produces light, non-sticky pollen in large numbers and its stigmas are long and feathery. These modifications facilitate pollination by:

- a. Insects b. Water c. Wind d. Animals

Q5. From among the situations given below, choose the one that prevents both autogamy and geitonogamy.

- a. Monoecious plant bearing unisexual flowers
b. Dioecious plant bearing only male or female flowers
c. Monoecious plant with bisexual flowers
d. Dioecious plant with bisexual flowers

Q6. In an embryo sac, the cells that degenerate after fertilisation are:

- a. Synergids and primary endosperm cell b. Synergids and antipodals
c. Antipodals and primary endosperm cell d. Egg and antipodals

Q7. While planning for an artificial hybridization programme involving dioecious plants, which of the following steps would not be relevant:

- a. Bagging of female flower b. Dusting of pollen on stigma
c. Emasculation d. Collection of pollen

Q8. In the embryos of a typical dicot and a grass, true homologous structures are:

- a. Coleorhiza and coleoptile b. Coleoptile and scutellum
c. Cotyledons and scutellum d. Hypocotyl and radicle

Q9. In a flower, if the megaspore mother cell forms megaspores without undergoing meiosis and if one of the megaspores develops into an embryo sac, its nuclei would be:

- a. Haploid b. Diploid
c. A few haploid and a few diploid d. With varying ploidy

Q10. The phenomenon wherein the ovary develops into a fruit without fertilisation is called:

- a. Parthenocarpy b. Apomixis c. Asexual reproduction d. Sexual reproduction

Sec-B

2 x 4 = 8

- Q11. Name the parts of pistil which develop into fruit and seeds.
- Q12. Which is the triploid tissue in a fertilised ovule? How is the triploid condition achieved?
- Q13. Are pollination and fertilisation necessary in apomixis? Give reasons.
- Q14. How is pollination carried out in water plants?

Sec-C

3 x 4 = 12

- Q15. List three strategies that a bisexual chasmogamous flower can evolve to prevent self-pollination (autogamy).
- Q16. What is polyembryony and how can it be commercially exploited ?
- Q17. Are parthenocarpy & apomixis different phenomena ? Discuss their benefits.
- Q18. Embryo sacs of some apomictic species appear normal but contain diploid cells. Suggest a suitable explanation for the condition.

Sec-D

5 x 1 = 5

- Q19. Starting with the zygote, draw the diagrams of the different stages of embryo development in a dicot.