

## Class XII Biology Assignment

### Chapter 2 Sexual reproduction in flowering plants

#### Objective type questions

1. How many microspore mother cells are required to produce 1000 microspores/pollen grains?  
a) 100 b) 150 c) 200 d) 250
2. Which of the following represents the female gametophyte  
a) Embryo b) Embryo sac c) Synergid d) Endosperm
3. when the pollen of the flower is transferred to the stigma of another flower on the same plant the process is called as  
a) autogamy b) geitonogamy c) xenogamy d) cleistogamy
4. From among the situations given below choose one that prevents both autogamy and geitonogamy  
a) Monoecious plant bearing unisexual flowers  
b) dieocious plant bearing only male and female flowers  
c) monoecious plant with bisexual flowers  
d) dieocious plant with bisexual flowers
5. In a fertilized embryo sac, the haploid, diploid and triploid structures are:  
a) Synergid, zygote and primary endosperm nucleus.  
b) Synergid, antipodal and polar nuclei.  
c) Antipodal, synergid and primary endosperm nucleus.  
d) Synergid, polar nuclei and zygote.
6. In an embryo sac, the cells that degenerate after fertilization are  
a) Synergids and primary endosperm cell.  
b) Synergids and antipodals  
c) Antipodals and primary endosperm cell  
d) Egg and antipodals
7. Which of the following floral parts forms the pericarp after fertilization?  
a) Nucellus b) Outer integument c) Ovary wall d) Inner integument

## Practice questions

1. Describe the structure of a typical embryo sac found in flowering plants? Why is it generally referred to as monosporic?
  2. Describe the structure of a mature angiospermic pollen grain.
  3. Name the three parts of pistil and mention one function of each of them.
  4. Differentiate between albuminous and non-albuminous seeds, with an example for each.
  5. What are parthenocarpic fruits? Give an example. Mention one characteristic feature of such fruits.
  6. Differentiate between true fruits and false fruits, with an example of each.
  7. (i) Draw a neat labelled diagram of the longitudinal section of an anatropous ovule.  
ii) Which cell of the ovule gets transformed into megaspore mother cell ?
  8. (i) Draw a neat labelled diagram of the vertical section of maize grain.  
ii) Why can we not use the term seed for the maize grain.
  9. What develops into a microspore mother cell in a flower ? Trace the development of this cell into a pollen grain, which is ready for germination . Draw a labelled figure of a mature pollen grain.
  10. Trace the development of a megaspore mother cell of a flower into a mature ovule. Give a labelled diagram of the final stage.
  11. Trace the events that would take place in a flower from the time the pollen grain of the same species falls on the stigma upto the completion of fertilization.
  12. Draw a well labelled diagram of the L.S. of embryo of grasses. How does it differ from that of bean?
  
  13. What brings about pollination in plants like silk cotton tree and bottle brush?
  14. The microscopic pollen grains of the past are obtained as fossils . Mention the characteristic of the pollen grain that makes it happen.
  15. An anther with malfunctioning tapetum often fails to produce viable male gametophytes. Why?
  16. Differentiate between perisperm and endosperm.
  - 17.i) Write characteristic features of anther, pollen and stigma of wind pollinated flowers.  
ii) How do flowers reward their insect pollinators
- Explain the process of artificial hybridization to get improved crop variety in i) plants bearing bisexual flowers ii) female parent producing unisexual flowers.
18. State one advantage and one disadvantage of cleistogamy.
  19. Mention the reason for difference in the ploidy of zygote and endosperm.
  20. If a diploid number of chromosomes in an angiospermic plant is 28. What number would you expect in endosperm and embryo of that plant.
  - 21.** Give reasons why:  
(a) Apple is a false fruit?  
(b) Groundnut seeds are exalbuminous and castor seeds are albuminous.