Chapter- 02

SEXUAL REPRODUCTION IN FLOWERING PLANTS

VERY SHORT ANSWER QUESTIONS (1 mark)

01. Name the innermost and outermost wall layers of a microsporangium in an angiosperm anther.
02. What are germpores?
03. Mention any two application of pollen grains.
04. Define funicle and hilum.
05. What is filiform apparatus? State its role.
06. Define cleistogamy and site an example of it.
07. The meiocyte of rice has 24 chromosomes. Write the number of chromosomes in its endosperm.
08. How do flowers of vallisneria get pollinated?
09. Mention two advantages of seeds to man.
10. Give the common role of cotyledon and nucellus.

SHORT ANSWER TYPE QUESTIONS (2 marks)

11. Mention the role of tapetum and write two features of it.
12. Explain giving two reasons why pollen grains can be best preserved as fossils.
13. Differenciate between syncarpous and apocarpous pistils with an example from each.
14. Geitonogamous flowering plants are genetically autogamous, but functionally cross - pollinated. Justify.
15. Not all hydrophytes are pollinated by water. Justify by giving two examples.
16. State two point of difference between vegetative and generative cell of mature male gametophyte.
17. Why should a breeder need to emasculate a bisexual flower? Mention a condition in a flower, where emasculation is not necessary?
18. Why are some seeds of citrus referred to as polyembryonic? How are they formed?
19. Differenciate parthenocarpy from parthenogenesis along with examples.
20. Enlist any two ways by which apomictic seeds are produced.

SHORT ANSWER TYPE QUESTIONS (3 marks)

21. Mention any three important differences between air pollinated and wind pollinated flowers.

22. Explain three outbreeding devices.

23. Draw a longitudinal section of a post pollinated pistil sharing entry of pollen tube into mature embryo sac along with six labeling.

24. (a) Mention the ploidy of endosperm (b) Elaborate fate of endosperm citing suitable examples

25. State what is apomixis. Write its significance. How can it be commercially used?

LONG ANSWER TYPE QUESTIONS (5 marks)

26. (a) How does the megaspore mother cell develop into 7 celled - 8 nucleated embryosac in angiosperm?

(b) Draw a diagram of anatropous ovule with atleast four labeling.

27. (a) Elaborate Pollen - pistil interaction in detail.

(b) Explain the stages involved of a microspore maturing into a pollen grain.

28. (a) State two points of difference between albuminous and exalbuminous seeds with examples.

(b) Why apple is known as false fruit?

(c) What is perisperm? Give its role.

29. (a) Explain double fertilisation and write a note upon triple fusion.

(b) Difine pollen allergy and mention any two disorders caused by pollens.

30. (a) Diagrammatically represent the L.S of an embryo of grass and label the followings:

(i) Coleorhiza (ii) Epiblast (iii) Coleoptile (iv) Scutellum (v) Radicle (vi) Plumule

(b) Name the seeds that have retained their viability for thousand of years.

HOTS/MODEL QUESTIONS:

01. A bilobed dithecous anther has 100 microspore mother cells per microsporangium. How many male gametophytes can this anther produce?

02. Name the protective layer of ovule.

03. Define hilum and funicle.

04. Name the haploid cells at the micropylar and of embryo sac.

05. What is self compatibility? Why does self pollination not lead to seed formation in self imcompatible species?

06. Write the cellular contents carried by the pollen tube. How does the pollen tube gain its entry into the embryo-sac?

07. Draw a transverse sectional view of an apple and label the following parts along with their technical names. (i) Edible part (ii) Encloser the embryo (iii) Forms the fruit wall

08. Mention the unique flowering phenomenon exhibited by *Strobilanthes kunthiana*.

09. A moss plant produces a large number of antherozoids but relatively only a few egg cells why?.

10. Describe the endosperm development in Angiosperms.

11. Describe why is tender coconut considered as a heathy source of nutrition?

12. Plan an experiment and prepare a flow chart of the steps that you would follow to ensure that the seeds are formed only from the desired sets of pollen grains. Name the types of experiments that you carried out.

13. Give reasons why hybrid seeds have to be produced year after year.

14. Give reasons why

(a) Groundnut seeds are exalbuminous and castor seeds are albuminous.

(b) Micropyle remains as a small pore in seed coat of seed.