D.A.V. PUBLIC SCHOOL, NEW PANVEL

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2025-2026

STD: - XII

Sub: - Biology **W.S:-1**

CHAPTER:Sexual reproduction in flowering plants

1.Anemophillous flowers have
(a) (b) (c) (d)
(a)small,smooth stigma (b)inserted stigma (c)large feathery stigma (d)coloured stigma

2.An anther culture produced some diploid cells and some haploid cells.Which of the following produced diploid cells?
(a)Generative cell (b)Cells of anther wall (c) Vegitative cell of pollen (d)Exine of pollen

3.On fertilization the secondary nucleus forms
(a)Seed (b)Embryo (c)Endosperm (d)Cotyledons

4.The development of seedless fruit is known as
(a)Herkogamy (b)Parthenocarpy (c) morphogenesis (d)Parthenogenesis

5.A pollen grain is best defined as a
(a) male gamete (b) microspore mother cell
(c) partially developed male gametophyte (d)partially developed embryo

6.In angiosperms,the embryo sac represents
(a) male gametophyte (b) female gametophyte
(c) young sporophyte (d)future fruit

7.The ovule is comparable to
(a)megasporangium (b) microsporangium (c)megasporophyll (d)microsporophyll

8.Perisperm is the remaining
(a)nucellus (b) endosperm (c) female gametophyte (d)integuments

9.A grain of maize is the
(a) embryo (b) seed (c) fruit (d)fruit and seed

10.The most essential events of sexual reproduction are
(a)plasmogamy (b)meiosis (c) syngamy (d)both (b) and (c)

11.Filiform apparatus is present in
(a) synergids (b) egg cell (c) antipodals (d)secondary nucleus

12.In dicots,the common type of pollen tetrads is
(a) tetrahedral (b) isobilateral (c) linear (d)decussate

13.Which acts as a passage for a pollen tube to reach ovary to fertilise the egg?
(a) Ovule (b) Stigma (c) Style (d)Placenta

14.Entry of pollen tube through micropyle is called
(a)porogamy (b) chalazogamy (c)mesogamy (d)apogamy

15.The mature female gametophyte of angiosperms ,before fertilization is
(a)8 nucleate (b) 7 nucleate (c) 4 nucleate (d)multinucleate

16.The most common path of entry of pollen tube in the ovule is through
(a)micropyle (b) chalaza (c)integuments (d)hilum

17.A mass of parenchymatous tissue hich forms major portion of an ovule is the
(a) nucellus (b) endosperm (c)female gametophyte (d)male gametophyte
18.Anther is generally
(a)monosporangiate (b) bisporangiate (c)trisporangiate (d)tetrasporangiate
19.The stalk of the ovule is called
(a)funicle (b) petiole (c)pedicel (d)hilum
20.Number of gametes in male gametophyte of angiosperm is
(a) four (b) two (c) one (d)three
21.The outer covering of is called
(a) raphe (b) integument (c) perisperm (d)pericarp
22.Synergids are present near
(a)female gamete (b)secondary nucleus (c)male gamete (d)antipodals
23.In angiosperms,fertilization takes place in
(a) archegonia (b)ovary (c)ovule (d)embryo sac
24.When the micropyle ,chalaza and funicle lie in a straight line ,the ovule is called
(a)anatropous (b) orthotropous (c) campylotropous (d)hemitropous
25.After the fertilization,the wall of ovary develops into
(a) tests (b) perisperm (c) pericarp (d) tegmen
26.In exalbuminous seed,food is stored in
(a) endosperm (b)cotyledons (c)both (a) and (b) (d)perisperm
27._____ is the sterile tissue between two anther lobes.
(a) Connective (b) Middle layer (c) Tapetum (d)Endosperm
28.Pollen tube which comes out through the germ pore during germination of the pollen grain is protuberance of
(a)exine (b) intine (c)protoplasm (d)tonoplast
29.In angiosperms, free nuclear division occurs during
(a) gamete formation (b)formation of embryo sac
(c) formation of endosperm (d)both (b) and (c)
30.Plants with ovaries having only one or a few ovules,are generally pollinated by
(a)Bees (b)Butterfly (c)Birds (d)wind
31.Which one of the following statements is correct?
(a)sporogenous tissue is haploid (b) Endothecium produce the microspores
(c) Tapetum nourishes the developing pollen (d)Hard outer layer of pollen is called intine
32.An aggregate fruit is one which develops from
(a) Multicarpellary apocarpous gynoecium (b)Complete Inflorescence
(c) Multicarpellary superior ovary (d) Multicarpellary syncarpous gynoecium
33.Which of the following is the parthenocarpic fruit?
(a) Banana (b) Brinjal (c)Apple (d)Jackfruit
34.Seed formation without fertilization in flowering plants involves the of
(a) Sporulation (b)Budding (c)Somatic hybridization (d)Apomixis
35.Apomictic embryos in *Citrus* arise from
(a) Antipodal cells (b) Diploid egg (c)Synergids (d)Maternal sporophytic tisse in ovule

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Sub: - Biology **W.S:-2**

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CHAPTER:Sexual reproduction in flowering plants

1.State what is apomixes.Comment on its significance .How can it be commercially used?

2.(a)Describe the process of megasporogenesis in an angiosperm.

(*b*) Draw a diagram of a mature embryo sac of angiosperm. Label its any six parts.

3.(a)Plan an experiment and prepare a flow chart of the steps that you ould follow to ensure that the seeds are formed only from the desired sets of pollen grains.Name he type of experiment that you carried out.

(b)Write the importance of such experiments.

4.(a) Name the organic material exine of pollen grain is made up of.How is this material advantageous to pollen grain?

(b) Still it is observed that it does not form a continuous layer around the pollen grain.Give reason.

(c) How are “pollen banks” useful?

5.(a)Can a plant flowering in Mumbai be pollinated by pollen grains of the same species growing in NewDelhi? Provide explanations to your answer.

(b)Draw the diagram of a pistil where pollination has successfully occurred.Label the parts involved in reaching the male gametes to its desired destination.

6.A pollen grain in angiosperm at the time of dehiscence from an anther could be 2-celled or 3-celled. Explain. How are the cells placed within the pollen grain when shed at a 2-cedd stage?

7.(a)How are Parthenocarpic fruits produced by some plants and apomictic seeds by some others?Explain.

(b) When do farmers prefer using apomictic seeds?

8.Out of many papaya plants growing in your garden,only a few bear fruits.Give reason.

9.(a) How does a farmer use the dormancy of seeds to his advantage?

(b)What advantages a seed provides to a plant?

10. (a)As a senior biology student you have been asked to demonstrate students of secondary level in your school, the procedure(s)that shall ensure cross-pollination in a hermaphrodite flower. List the different steps that you would suggest and provide reasons for each of them.

(b)Draw a diagram of a section of a megasporangium of an angiosperm and label funicle, micropyle, embryo sac and nucellus.

11.(a)When a seed 0f an orange is squeezed, many embryos, instead of one are observed. Explain how it is possible.

(b)Are these embryos genetically similar or different? Comment.

12.Explain the process of pollination in Vallisneria. How is it different in water-lily, which is also an aquatic plant?

13.How many cells are present in the pollen grains at the time of their release from anther? Name the cells.

14.(a)Trace the development of an endosperm after fertilization with reference to coconut. Mention the importance of endosperm development.

(b)Write the importance of “pollen bank”.

15. (*a*) Describe any two devices in a flowering plant, which prevent both autogamy and geitonogamy.

(*b*) Explain the events upto fertilisation after the pollen tube enters one of the synergids in an ovule of an angiosperm.

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Sub: - Biology **W.S:-3**

CHAPTER:Sexual reproduction in flowering plants

I.Draw the following diagrams in your note book and label the parts:

(a)Three dimensional cut section of an anther.

(b)Transverse section of a young anther

(c)Enlarged view of one microsporangium showing wall layers.

(d) Diagrammatic view of a typical anatropous ovule.

(e) A diagrammatic representation of the mature embryo sac.

(f) L.S of pistil showing path of pollen tube growth.

(g) Fertilised embryo sac

(h) A typical dicot embryo.

(i)L.S. of an embryo of grass (monocots)

2.Explain the structure of a microspore with the help of a neat ,labeled diagram.

3.Differentiate between autogamy, geitonogamy and xenogamy.

4.What are the different types of out breeding devices.

5.Explain the adaptive features of pollination in *Vallisneria* and *maize.*

6.Differentiate between Chasmogamous and Cleistogamous flowers.

7.Write the steps in artificial hybridization.

8.Explain the structure of a dicot embryo with the help of a neat ,labeled diagram.

9.Define the following terms:

(i) Perisperm (ii) Ex-albuminous seed (iii) Parthenocarpic fruits (iv)Apomixis

10.Explain the phenomenon polyembryony with suitable examples.

11. “Production of hybrid seeds is too expensive”. Give reason.

12.What do you mean by pollen-pistil interaction.

13.What is the speciallity of the pollens of the members of Rosaceae and Leguminosae.

---------XXX---------