

DPP

DAILY PRACTICE PROBLEMS

Class : XIIth

Date :

Solutions

Subject : BIOLOGY

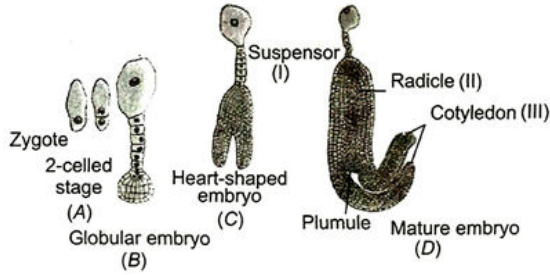
DPP No. : 6

Topic :- Sexual Reproduction in Flowering Plants

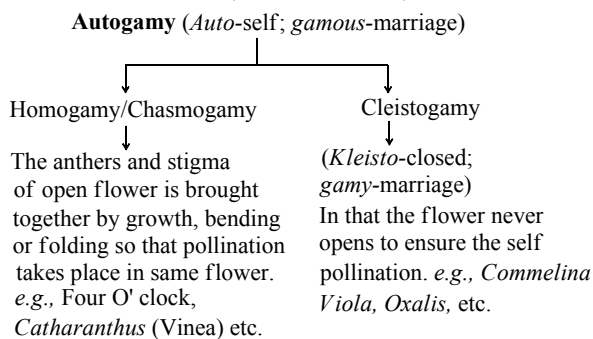
- 1 (a)
Microsporangia is like a sac in which pollen develops. Also called pollen sac at the time of maturity
- 2 (a)
Sporopollenin.
Pollen grains are generally 25-50 μm in diameter.
Pollen grains have two main layers
(i) **Outer Layer** It is also called **exine**. It is made up of **sporopollenin**. It is hard and protective in nature. Due to sporopollenin pollen can with stand extreme temperatures
(ii) **Inner layer** It is also called **intine**. It is made up of cellulose and pectin. It is very thin as compared to the outer layer
- 3 (d)
Pseudocopulation describes behaviours similar to copulation that serves a reproductive function for one or more or both the participants but not involve actual sexual union between the individuals. It is most generally applied to a pollinant attempting to copulate with a flower. Orchids commonly achieve reproduction in this manner.
- 4 (a)
Corolla The leaf lifer covering of flower is called **corolla**. The individual segment of corolla is called **petals**
Petals are variously coloured.
Function To attract the pollinators and protection of male and female reproductive part
- 5 (a)
Never open.
Chasmogamy is the type of autofertilisation (self-fertilisation) in which both male and female

gametes present on same flower but pistil and stamen have special adaptation like bending length, etc., so that fertilization takes place. They are open flower not closed like cleistogamous flowers

- 6 **(a)**
Presence of feathery and exposed stigma are the characters of wind-pollinated plant
- 7 **(a)**
Self-pollination When the process of pollination occurs in the same plant, it is called self-pollination. *It is of two types*
- (i) **Autogamy** When pollination takes of place in the same flower of a plant. Here, no pollinating agent is required
- (ii) **Geitonogamy** Transfer of pollen grains from anther to stigma of another flower of same plant. Although the geitonogamy is functionally cross-pollination involving a pollinating agent, genetically it is similar to autogamy since the pollen grains come from the same plant
- 9 **(a)**
Pollen grains which contribute the male gametes are formed within an anther. A typical anther is tetrasporangiate. It has a column of sterile tissues called connective. Mature anther wall comprises an epidermis followed by endothecium, 2 or 3 middle layer and single layered tapetum.
- 10 **(b)**
A-Exine, B-Sporopollenin, C-Germ pore
- 11 **(a)**
Pollen, syrup increase/improve performance because pollen contain highly nutritive material in the form of vegetative cell
- 12 **(c)**
Embryo develops at the micropylar end of the ovule or embryo sac, where the zygote is situated. Most zygote divide only after certain amount of endosperm is formed. The early stages of embryonic development is same in both monocotyledons and dicotyledons. The zygote give rise to the proembryo and subsequently into globular, heart-shaped and mature embryo



- 13 (c) Tapetum is the innermost layer of the wall of pollen sac. The tapetum is **nutritive** in function. The tapetal cells are multinucleate and contain Ubish bodies.
- 14 (a) Formation of diploid embryo sac from diploid vegetative structure (nucellus or integument) without meiosis is called **apospory**.
- 15 (c) Terminal structure of stamen is called anther, which contain pollen grain (male gametophyte). Pollen grains are haploid in nature
- 16 (a) Micropylar region the most common way for entry of pollen tube (porogamy)
- 17 (c) A-Chasmogamous-male and female part remain on the same flower but there are modification for ensuring self-fertilisation
B-Cleistogamous (closed flower)



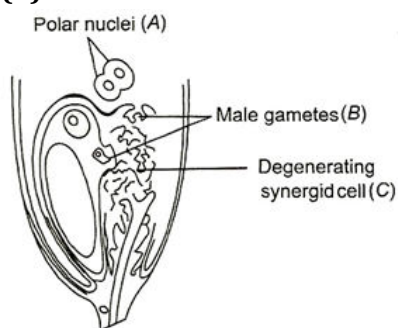
- 18 (d) Some examples of water pollinated plants are *Vallisneria* and *Hydrilla*, which grow in fresh water and several marine sea-grasses such as *Zostera*. Not all aquatic plants use water for pollination. In a majority of aquatic plants such as

water hyacinth and water lily the flower emerge above the level of water and are pollinated by insects of wind as in most of the land plants

19 (c)

Endosperm may either be completely consumed by the developing embryo (*e.g.*, pea, ground nut, beans) before seed maturation or it may persist in mature seed (*e.g.*, castor and coconut) and may be used up during seed germination. The first condition is called endospermic, while second condition is called non-endospermic

20 (d)



Discharge of male gametes into a synergid and the movements of the sperms, one into the egg the other into the central cell

ANSWER-KEY										
Q.	1	2	3	4	5	6	7	8	9	10
A.	A	A	D	A	A	A	A	D	A	B
Q.	11	12	13	14	15	16	17	18	19	20
A.	A	C	C	A	C	A	C	D	C	D