DPP
DAILY PRACTICE PROBLEMS

Class : XIIth
Date :

Solutions

Subject : BIOLOGY
DPP No. : 2

Topic :- Sexual Reproduction in Flowering Plants

1 **(a)**
The common asexual reproductive structures in sponges are gemmules, and in *penicillium* are conidia. The vegetative propagules in *Agave*, water hyacinth and *bryophyllum* are bulbil, offset and leaf buds, respectively.

2 **(d)**
In angiosperm, fusion of second sperm with two polar nuclei is called **triple fusion**.

3 **(b)**
In most cases, the mature embryo sac contains 7 cells and 8 nuclei, *i.e.,* egg apparatus with two haploid synergid cells and one haploid egg cell at micropylar end, two haploid polar nuclei in a single central cell (which later fuse to form diploid secondary nucleus) at the middle and three haploid antipodal cells at the chalazal pole.

4 **(b)**
I, II, III and IV are correct
Flowering plants have developed many devices to discourage self-pollination. In some species, pollen, releases and stigma receptibility is non-syncronised, *i.e.,* either the pollen is released before the stigma becomes receptive or stigma becomes receptive much before the release of pollen.
In some other species the anther and stigma are placed at the different positions so that the pollen can not come in contact with the stigma of same flower. Both these devices prevent autogamy.
The third device to prevent inbreeding is self-incompatibility. This is genetic a mechanism and prevents self pollination (from same flower or

other flower of same plant) from fertilizing the ovules by inhibiting pollen germination or pollen tube growth in pistil

5 **(d)**

Nuclei involved in fertilization Two nuclei from polar cell, two nuclei from male gametes (generative and vegetative) and one nucleic from egg cell

6 **(d)**

In citrus, mango plants some of the nucellar cell surrounding the embryo sac starts dividing, protrude into embryo sac and develop into many embryos. In such species each ovule contains many embryos. Occurrence of more than one embryo is referred to as polyembryony

7 **(d)**

30 min.

The period in which the pollen grains remain viable is highly variable. It depends on the temperature and humidity. In some cereals such as rice and wheat, the pollen grains loose viability with in 30 minutes of their release and in some members of Rosaceae, Leguminosae and Solanaceae, they maintain variability for months

9 **(c)**

Endosperm Genotype Endosperm is formed by fusion of male gamet and polar nuclei so, the genotype of endosperm is ABB

Embryo Genotype Embryo is formed by fusion gametes ($1n$) of male and female. So, the embryo genotype is AB

10 **(a)**

Polyhonum type of embryo sac is 7-celled, 8-nucleate, *i.e*., composed of 3 antipodals, 2 synergids one egg and one central cell.

11 **(d)**

Micropyle is the narrow or passage left by the integuments at one end of the ovule. It allows the entry of pollen tube into the ovule. This phenomenon is known as porogamy, *e.g.,* lily.

12 **(c)**

A **fruit** is a seed containing part of a plant that develops from a fertilized ovary and often from

other tissue that surround it.

13 **(d)**

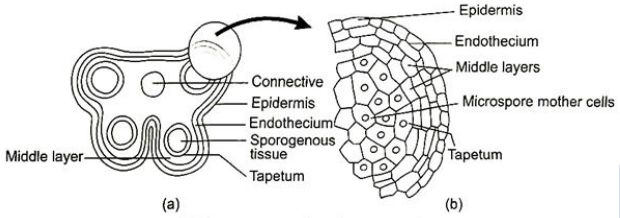
Allogamy is also known as cross pollination, *i.e.,* involvement of male and female gametes of two different flowers.

14 **(d)**

Microsporangium is mainly surrounded by four layers/wall, *i.e*., Epidermis, endothecium, middle layer and tapetuem

(i) Epidermis endothecium and middle layer help in protection and dehiscence of anther from pollen

(ii) Tapetum nourishes the developing pollen grain



(a) Transverse section of a young other
(b) Enlarged view one micro sporangium showing wall layers

15 **(a)**

True.

In coconut endosperm two type of division takes place, cellular and nuclear and it is the female gametophyte not male. In coconut endosperm cellular endosperm surrounds the nuclear endsopores

16 **(b)**

Hermaphrodite flower is also called monoecious or bisexual flower. Majority of plants have this type of flowers

17 **(a)**

Unisexuality of flowers prevents autogamy(self pollination) but not geitonogamy(pollination between separate male and female flowers on the same plant).

18 **(a)**

The funiculus is stalk like part, which attaches the ovule to placenta in an ovary.

19 **(c)**

Self-pollination involves the transfer of pollen grains from the anther to the stigma of the same flower.

20 **(a)**

Meiosis is a type of cell division in which the chromosomes number becomes half. This type of division takes place only during **gametogenesis**, because gametes have haploid or half chromosomes than parents

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