

DPP
DAILY PRACTICE PROBLEMSClass : XIIth
Date :**Solutions**Subject : BIOLOGY
DPP No. : 3**Topic :- Sexual Reproduction in Flowering Plants**

- 1 **(b)**
In cereals, one of few outer layers of endosperm are thick-walled with dense cytoplasm having pits. These are mainly filled with **aleurone grains** (highly protein rich) and hence, called **aleurone tissue** or **aleurone layer**.
- 2 **(a)**
Development of an egg (ovum) into a complete individual without fertilization is known as **parthenogenesis**. A diploid offspring is produced without fertilization of a diploid egg cell through parthenogenesis.
- 3 **(b)**
Apomixis or **agamospermy** is a reproductive process in plants that superficially resembles normal sexual reproduction but in which there is no fusion of gametes. In some apomictic flowering plants, there is no fertilization by pollen and the embryos develop simply by division of a diploid cell of the ovule.
- 4 **(c)**
After fertilization, the mature, ripened ovary develops into fruit. The ovary wall forms the covering of the fruit called fruit wall or pericarp. Some other post fertilization changes also occur like nucellus develops into perisperm, ovules develop into seeds, outer integument forms testa, inner integument forms tegmen, etc.
- 5 **(d)**
Tapetum is the innermost layer of anther wall. It is the major nourishing layer. Its cells become multinucleate and polyploid through endomitosis and endopolyploidy.
- 6 **(a)**

Pollen grains of many species cause severe allergies and bronchial afflications. In some people often leading to chronic respiratory disorders, *i.e.*, asthma, bronchitis, etc. Remember that *Parthenium* or carrot grass that came to India as a contaminant with imported wheat has become ubiquitous in occurrence and cause pollen allergy

7 **(d)**

Non-albuminous seeds are also called ex-albuminous. In them reserve food consumed by embryo so their cotyledons are very thin

8 **(d)**

Parthenogenesis is development of an embryo from an unfertilized egg or if a spermatozoan does penetrate the egg, there is no union of male and female pronuclei. It is found in many plants (dandelions and hawk weeds) and animals (aphids and honey bees).

9 **(d)**

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

10 **(d)**

A- Hypocotyle, B- Radicle, C- Root cap

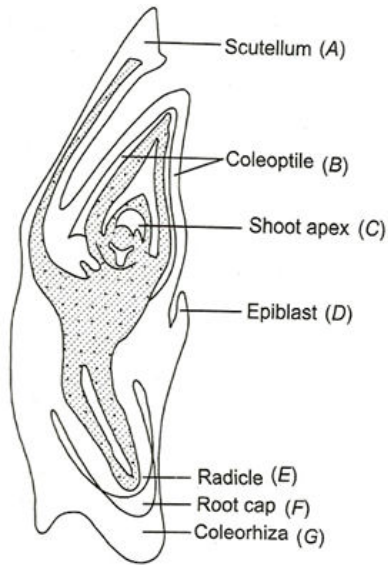
11 **(b)**

Calotropis is insect pollinating plant (cross pollination). **Herkogamy** is a type of cross pollination adaptation in which pollens transfer from the anther of one flower to the stigma of a genetically different flowers with the help of various biotic or abiotic agencies is favoured.

12 **(d)**

Fertilization of egg takes place inside **embryo sac** because egg is the part of embryo sac.

13 **(b)**



LS of an embryo of grass

Embryos of monocotyledons possess only one cotyledon. In the grass family the cotyledon is called scutellum that is situated toward the one side (lateral) of the embryonal axis. At its lower end, the embryonal axis has the radical and root cap enclosed in an undifferentiated sheath called coleorhiza.

The portion of the embryonal axis above the level of attachment of scutellum is epicotyl. Epicotyl has a shoot apex and few leaf primordia enclosed in hollow structure the coleoptile

- 14 **(a)**
Egg cell is haploid, whereas endosperm is triploid as it is formed by fusion of one male gamete with two polar nuclei. Therefore, the number of chromosomes in endosperm will be $8 \times 3 = 24$.
- 15 **(b)**
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 endosperm
- 16 **(a)**
It is the ovules which develop into seed so number of seeds is equal to the number of ovules
- 17 **(a)**
Occurrence of more than one embryo in a seed is referred as **Polyembryony**. In many citrus and

mango varieties some of the nucellar cells surrounding the embryo sac start dividing, protrude into embryo sac and develop into the embryos. In such species, each ovule contains many embryos (nucellar polyembryony)

18 **(a)**

In parthenogenesis, the number of chromosomes of the second generation as compared to the parent remains half.

19 **(c)**

Pollination refers to the transfer of pollens to stigma. **Hydrophily** is the pollination by water. Hydrophily is commonly seen in members of Ceratophylaceae, Najadaceae, Hydrocharitaceae, etc.

20 **(d)**

Anemophily is a mode of cross-pollination, which is accomplished through the agency of wind. It occurs in **coconut**, date palm, maize, etc.

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