DPP
DAILY PRACTICE PROBLEMS

**Class : XIIth**
**Date :**

**Solutions**

**Subject : BIOLOGY**
**DPP No. : 9**

# Topic :- Sexual Reproduction in Flowering Plants

1 **(b)**
During the germination the light is not needed. But later stage of development light plays a greater role in making food

2 **(a)**
Both *Bryophyllum* and *kalanchoe are* propagated by leaf pieces.

3 **(a)**
Pollen grain is the mother cell of male gametophyte. Development of male gametophyte begins inside the micro sporangium. The microspore nucleus divide mitotically to form a smaller generative cell and a much large, vegetative cell (tube cell) the generative cell produces two male gametes, whereas, the vegetative cell form pollen tube after pollination. Pollen grain contains two cells, *i.e*, tube cell and generative cell at the time of pollination.

4 **(a)**
*Amorphophallus* (6 feet height)
In some species floral rewards are seen in providing safe places to lay eggs: an example is that of the tallest flower *Amorphophallus.* A similar relationship exist between a species of moth and the plant *Yucca* where both the species moth and plant cannot complete their life cycles without each other.
The moth deposits its eggs in the locule of the ovary and flower in turn gets pollinated by moth. The larvae of moth come out of the eggs as the seed starts developing

5 **(c)**
Opening of flower is called anthesis

6 **(c)**

Although the meaning of unisporic monosporic, single sporic cell is same but only monosporic term is used for single megaspore

7 **(c)**

*There are three types of endosperm development*

(i) **Nuclear Type** The primary endosperm nucleus divides repeatedly without wall formation to produce a large number of free nuclei. *e.g.*, Maize, coconut and wheat

(ii) **Cellular Type Endosperm** Every division of the primary endosperm nucleus is followed by cytokinesis *e.g.*, *Balsam, Datura, Petunia*

(iii) **Helobial Endosperm** The first division of primary endosperm nucleus is followed by transverse cytokinesis to form two cells. Further development in both the cells occurs like that of nuclear endosperm

8 **(d)**

In vegetative propagation, there is no genetic recombination, so the genetic constitution of a plant is unaffected in vegetative propagation. In ginger (*Zingiber officinale*), the means of vegetative propagation is fleshy, dorsiventral, horizontal, branched, underground, perennial, straggling rhizome (modified stem).

**Totipotency** is the capability of any plant cell to develop into entirely new plant when provided with the suitable growing medium. it enables us to micropropagate plants.

9 **(c)**

Micropyle is found is both seed and ovule. In seed it is the pore through which water goes inside during germination. In ovule the absense of integuments form micropyle

10 **(a)**

The wall of the pollen mother cell (microspore mother cell) is deposited by callose β-1, 3-glucan).

11 **(a)**

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12 **(b)**

In angiosperm, a single diploid Megaspore Mother Cell (MMC) matures within an ovule. Through first meiosis, it gives rise to a dyad cell and then second meiosis takes place which forms four megaspores (haploid). In most plants, only one of these megaspore, survives, the rest are absorbed by the ovule.

13 **(b)**

Aleurone layer is the layer surrounds the endosperm. It is made up of protein. It is found only in mococotyledons

14 **(d)**

Seeds offer several advantages to angiosperms. Seeds have better adaptive strategies for dispersal to new habitats. Testa (outer covering) of seed protect embryo from injuries. Being products of sexual reproduction, they generate new genetic recombination leading to variation to upcoming new plants

15 **(c)**

Helobial.

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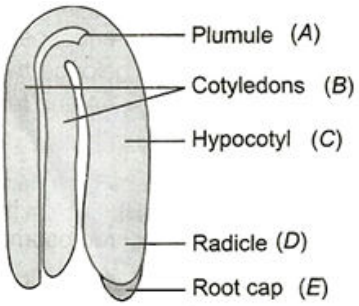
16 **(b)**

Dicot.

The diagram showing typical dicot embryo having various important parts. A typical dicotyledonous embryo, consist of an **embryonal** axis and two **cotylendons.** The portion of embryonal **axis** above

the level of cotyledons is **epicotyle,** which terminates with **plumule** or **stem tip**. The cylindrical portion below the level of cotyledons is **hypocotyl** that terminates at its lower end in the **radicle** or **root tip** Root tip is covered with **root cap**



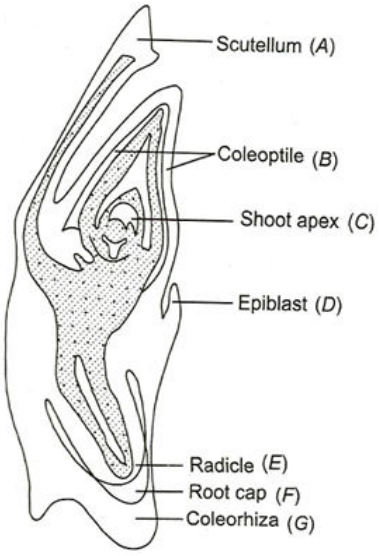
A typical dicot embryo

17 **(d)**
Mature endosperm with any degree of irregularity and unevenness in its surface contour is called ruminate endosperm. It is known to occur In about 32 families of angiosperms. In family-Annonaceae, the ruminate endosperm is found.

18 **(d)**
Dicot, cotyledon, epicotyle and hypocotyle are the three main parts of embryo

19 **(b)**
The embryo formation without fertilization is known as **apogamy**. Apogamy is the development of a sporophyte directly from the gametophyte without the intervention of sex organs and gametes.

20 **(b)**
Root cap coleorhiza.




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 primordial enclosed in hallow structure the coleoptile

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