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**Max Time : 1 ½ hr** **Class = 12th Biology Test**  **Max Marks : 40**

**Sexual Reproduction In Flowering Plants**

1. Multiple choice Questions: [ 1 x 7 = 7 ]
2. The structure of bilobed anther consists of :

|  |  |  |  |
| --- | --- | --- | --- |
| a) 2 theca ; 2 sporangia | b) 4 theca ; 4 sporangia | c) 4 theca ; 2 sporangia | d) 2 theca ; 4 sporangia |

1. During megasporogenesis, potential megaspore mother cell undergoes following cell divisions to form gametophyte female:

|  |  |
| --- | --- |
| a) 2 meiotic divisions and 3 mitotic divisions | b) 1 meiotic division and 1 mitotic division |
| c) 1 meiotic division and 3 mitotic divisions | d) 1 meiotic division and 2 mitotic divisions |

1. On observing the pollen gain under the microscope, it was found to be long and ribbon shaped. The flower bearing these pollen grain will be pollinated by :

|  |  |  |  |
| --- | --- | --- | --- |
| a) Insects | b) wind | c) Bees | d) Water |

1. In heterostyly :

|  |  |
| --- | --- |
| a) Pollen are prevented to fertilized ovule | b) Anther become receptive earlier. |
| c) Pollen are released earlier. | d) Anther and stigma present on different locations |

1. The integument encircle the complete ovule expecting :

|  |  |  |  |
| --- | --- | --- | --- |
| a) Antipodal | b) Chalaza end | c) Micropyle | d) Both (b) and (c) |

**Assertion-Reason Type Questions**

**DIRECTIONS :** In each of the following questions, a statement of Assertion (A) is given followed by a corresponding statement of Reason (R) just below it. Of the statements, mark the correct answer as:

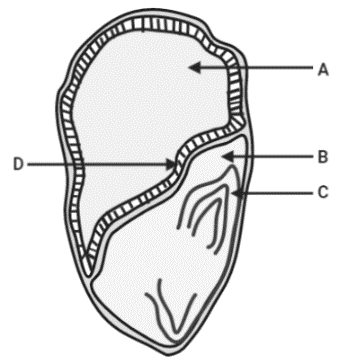
1. If both assertion and reason are true, but reason is the true explanation of the assertion.
2. If both assertion and reason are true, but reason is not the true explanation of the assertion.
3. If assertion is true, but reason is false.
4. If assertion is false, but reason is true.
5. **Assertion:** Primary endosperm nucleus is diploid.

**Reason:** It is the product of double fertilization.

1. **Assertion:** Apomictic embryos are genetically identical to parent plant.

**Reason:** Apomixis is the production of seeds without fertilization.

1. An anther with malfunctioning tapetum often fails to produce viable gametophytes. Give reason. [ 1 ]
2. How does pollination take place in Water Hyacinth and Water lily? [ 1 ]
3. Given below is a section of a maize grain. identify ‘A’, and state its functions. [ 1 ]



1. The meiocyte of rice has 24 chromosomes. write the number of chromosomes in its endosperm. [ 1 ]
2. Write the function of scutellum. [ 1 ]
3. Name the structure seen on the surface of black pepper and beet roots , not seen on a bean seed. Mention the part of ovule it is remnant of . [ 1 ]
4. Why does endosperm development proceed embryo development? [ 1 ]
5. Which part of pistil form fruits and seeds? [ 1 ]
6. Draw the labelled diagram of mature embryo sac of an angiosperm. [ 2 ]
7. How do flowers rewards their insects pollinators? Explain. [ 2 ]
8. Explain with the help of examples : (a) Parthenocarpy fruits (ii) Polyembryony. [ 2 ]
9. (i) A pollen grain in angiosperm at the time of dehiscence and from an anther could be 2-celled or 3-celled. Explain.

(ii) Define : (a) Pollen Bank (b) Pollen viability (c) Sporoderm [ 3 ]

1. Explain Endosperm development in angiosperms. [ 3 ]
2. (i) Describe any two devices in a flowering plants that prevents both autogamy and geitonogamy. [ 3 ]

(ii) Explain the events upto double fertilization after the pollen tube enters one of the synergids in an ovule of an angiosperms.

1. A flower of brinjal plant following the process of sexual reproduction produces 300 viable seeds. Answers the following questions also give reason. [ 5 ]
2. How many ovule are minimally involved?
3. How many megaspore mother cells are involved?
4. What is the minimum number of pollen grain that must land on stigma for pollination?
5. How many male gametes are involved in formation of seed?
6. How many microspore mother cell must have undergone reduction division prior to dehiscence of anther in above case?
7. (a) Describe the development of male gametophyte. [ 5 ]

(b) Draw the diagram of male gametophyte. Also explain the layers that cover male gametophyte.