

Chapter End Test

Date : _____	Biology	BATCH
Duration: 45 Min. Max. Marks : 26	Topic : Sexual Reproduction in Flowering Plants	XII

Disclaimer: This Chapter End Test is to be conducted after the chapter has been taught in a Studymate class. It has been designed to check whether a student has understood all concepts taught in class and memorised them, so the format of the paper and its questions may not reflect the same standard that appears in the actual board exam. It contains some easier questions that have a lesser chance of appearing on the board exam, but they form the foundation needed to answer difficult questions while one of its questions has appeared in NEET (UG) exam, as well. This test provides an early mid-course correction with an easier to medium difficulty level, on purpose.

General instruction:

1. This question paper consists of two sections.
2. Section A consists of 15 multiple choice questions.
3. The answer of MCQs has to done in separate OMR sheet.
4. Subjective section has 4 questions of 1, 2, 3 and 5 marks each.
5. Subjective questions have to be answered separately in answer sheets.
5. All questions are compulsory.

[Section – A]

1. A phenomenon, where the ovary develops into a fruit without fertilization, is called [1]
 (a) parthenocarpy (b) apomixes
 (c) parthenogenesis (d) sexual reproduction
2. Cleistogamous flowers are [1]
 (a) wind pollinated (b) water pollinated
 (c) self pollinated (d) insect pollinated
3. Ovaries of Papaver and Michelia are multicarpellary, but [1]
 (a) Papaver is apocarpous and Michelia is syncarpous
 (b) Papaver is syncarpous and Michelia is apocarpous
 (c) both are syncarpous
 (d) both are apocarpous
4. The ploidy of the cells of microspore tetrad is [1]
 (a) haploid (b) diploid
 (c) triploid (d) tetraploid.
5. A bilobed ditheous anther has 100 microspore mother cells per microsporangium. Total number of male gamete this anther can produce are [1]
 (a) 100 (b) 400
 (c) 800 (d) 1600
6. Plant which came to India as a contaminant and a cause of pollen allergy is [1]
 (a) Papaver (b) Parthenium
 (c) Viola (d) Striga
7. Scutellum is [1]
 (a) an endosperm (b) a seed coat

- (c) an embryo (d) a cotyledon
8. Which one of the following is an example of free nuclear endosperm? [1]
(a) coconut water (b) castor
(c) sugarcane juice (d) groundnut
9. A flower of a brinjal plant, following the process of reproduction, produce 120 viable seeds. The number of megaspore mother cells involved in this case are: [1]
(a) 120 (b) 60
(c) 30 (d) 240
10. Female gametophyte is also known as [1]
(a) ovule (b) nucellus
(c) egg apparatus (d) embryo sac
11. Larger cell of pollen grain with irregular shape nucleus is [1]
(a) generative cell (b) vegetative cell
(c) apical (d) basal cell
12. Ovule is attached to placenta by [1]
(a) pedicel (b) hilum
(c) funicle (d) integument
13. The pedicel of female flower coils after pollination in [1]
(a) Lotus (b) Hydrilla
(c) Vallisneria (d) Trapa
14. Development of seed without fertilization is called [1]
(a) parthenogenesis (b) apomixis
(c) parthenocary (d) sexual reproduction
15. Water hyacinth is pollinated by [1]
(a) water (b) wind
(c) insects (d) both wind and insects

[Section – B]

16. Name the part of the flower which the tassels of the corn cob represent. [1]
17. Mention any four strategies adopted by flowering plants to prevent self-pollination. [2]
18. Describe the structure of a typical embryo sac found in flowering plants. Why is it generally referred to as monosporic? [3]
19. (a) Differentiate between: [3+2]
(i) Male gametophyte and female gametophyte
(ii) Coleoptile and coleorhiza
(iii) Perisperm and endosperm
(b) Why are some seeds of citrus referred to as polyembryonic? How are they formed?



Hints/Solutions to Chapter End Test

Date : _____	Biology	BATCH
Duration: 1 Hr. Max. Marks : 26	Topic : Sexual Reproduction in Flowering Plants	XII

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| <p>1. (a)</p> <p>3. (b)</p> <p>5. (d)</p> <p>7. (d)</p> <p>9. (a)</p> <p>11. (b)</p> <p>13. (c)</p> <p>15. (c)</p> <p>16. The tassels of the corn cob are: stigma and style</p> <p>17. Four strategies adopted by flowering plants to prevent self pollination are:</p> <p>(a) Dichogamy – Non synchronization of pollen release and stigma receptivity</p> <p>(b) Dioecy – Production of unisexual flowers</p> <p>(c) Self incompatibility</p> <p>(d) Herkogamy – Spatial separation of anthers and stigma</p> <p>18. Single functional megaspore mother cell divides to form 8 nucleate and 7 celled embryo sac out. of 7 cells one one egg and two synergids are present at the micropyle end and form egg apparatus. Synergids have a special thickening called filliform apparatus which guides the pollen tube into ovary. 3 cells at chalazal end are antipodals and the cell present in center is central cell which has two polar nuclei. So a typical embryo sac of angiosperm plant is 7 celled and 8 nucleate. The single functional megaspore, which is haploid in nature, give rise to female gametophyte or embryo sac. Since only one megaspore cell is involved out of four it is called monosporic embryo sac.</p> <p>19. (a) (i) Male gametophyte Female gametophyte</p> <ul style="list-style-type: none"> • It is 3 celled or two celled structure. • It is formed inside pollen chamber of anther <p>(ii) Coleoptile Coleorrhiza</p> <ul style="list-style-type: none"> • It belongs to shoot system. • Foliaceous sheath that covers the plumule in monocot seeds. <p>(iii) Perisperm Endosperm</p> <ul style="list-style-type: none"> • Ploidy is diploid. • It represents the persistent remains of the nucellus in the seed. Perisperm is pre-fertilization product. <p>(b) Some seeds of citrus are referred to as polyembryonic because they contain more than one embryo. This phenomena is called polyembryony. These embryos are produced apomictically.</p> | <p>2. (c)</p> <p>4. (a)</p> <p>6. (b)</p> <p>8. (a)</p> <p>10. (d)</p> <p>12. (c)</p> <p>14. (b)</p> <ul style="list-style-type: none"> • It is 7 celled, 8 nucleate structure • It is formed inside the ovule <ul style="list-style-type: none"> • It belongs to root system. • Covering of radical in monocot seeds. <ul style="list-style-type: none"> • Ploidy is triploid. • Its a food storage tissue which originate from triple fusion. Endosperm is post fertilization product. |
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