BIOLOGY

BOOKS - ARIHANT PUBLICATION

SEXUAL REPRODUCTION IN FLOWERING PLANTS

Questions For Practice Part I Flower Pre Fertilisation Events And Pollination Very Short Answer Type Questions

1. The cushion of parenchymatous cells that joins ovary and ovule is known as

A. nucellus

B. placenta

C. hilum

D. funiculus

Answer: B

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2. The narrow pore at one end of the ovule is called

A. funiculus

B. chalaza

C. micropyle

D. hilum

Answer: C

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3. Megagametogenesis is the process of formation of embryo sac from

A. pollen grain

B. microspore

C. ovule

D. megaspore

Answer: D

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4. Antipodal cells are three in number and occur towards

A. chalazal pole

B. micropylar pole

C. both a and b

D. None of the above

Answer: A

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5. The presence of filiform apparatus is the characteristic feature of

A. egg

B. synergid

C. zygore

D. suspensor

Answer: B

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6. Megasporangium is equivalent to

A. embryo sac

B. fruit

C. nucellus

D. ovule

Answer: D

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7. Wind pollination is common in :

A. lilies

B. grasses

C. orchids

D. legumes

Answer: B

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8. Corect the sentences, if required, by changing the underlined word.

Plants with male and female reproductive

structures present on the same plant is called dioecious.

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9. Correct the sentences, if required, by changing the underlined word.

Stamen helps in production of megaspores, fruits and seeds.

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10. Correct the sentences, if required, by changing the underlined word.

Potenital pollenmother cell gives rise to megaspores

Watch Video Solution

11. Correct the sentences, if required, by changing the underlined word.

The mode of arrangement of ovule along the

placenta in the cavity of the ovary is known as

style

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12. Stalk with which ovule remains attached to the placenta is called

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13. A mass of parenchyma cells, surrounded by integuments and encloses embryo sac is called

.....

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14. .....is formed of a chemical called sporopollenin.

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15. A flower is said to .....when both the sex organs are missing.

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16. The pollination preferred by snails .

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17. The flowers which are bisexual and never open.

Watch Video Solution

18. Stigma of a flower matures earlier than the anther.

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19. The individual members of corolla are called _____

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Questions For Practice Part I Flower Pre Fertilisation Events And Pollination Short Answer

Type Questions

1. What is micorsporogenesis? Where does it occur in angiosperms? What is its significance?

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2. What is triple fusion ? Where and how does it take place? Name the nuclei involved in triple fusion.

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3. Name all the haploid cells present in an unfertilised mature embryo sac of a flowering plant. Write the total number of cells in it.

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4. Explain the role of tapetum in the formation of pollen grain wall.

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5. How does the pollen grow through the style? Explain briefly.

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6. Make a list of any three outbreeding devices that flowering plants have developed and explain how they help to encourage cross pollination.

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7. Explain the significant of pollination in flowering plants .

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8. What is hydrophily? Name any hydrophilous plant and give its important characters which help in pollination.

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9. Geitonogamous flowering plants are genetically autogamous but functionally cross pollinated. Justify.

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10. Explain the function of each of the following

(i) Coleorhiza (ii) Germ pores

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11. Where is sporopollenin present in plants? State its significance with reference to its chemical nature.

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12. What is pollen kit? Write a short note on pollen viability.

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13. Write the mode of pollination is Vallisneria and water lily. Explain the mechanism of pollination in Vallisneria.

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14. Trace the development of microsporocyte in the anther to a mature pollen grain.

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15. What are chasmogamous flowers? Can cross-pollination occur in cleistogamous flowers? Give reasons for your answer.

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16. Why do some plants have both chasmogamous and cleistogamous flowers?

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17. Why is geitonogamy also referred to as genetical autogamy?

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18. Some plants have a mechanism of shedding of pollen before maturation of stigma. Why?

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19. What is self-incompatibility ? Why does self-pollination not lead to seed formation in self-incompartoble species?

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20. Mention two strategies evolved to prevent self-pollination in flowers.

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21. Not all hydrophytes are pollinated by water. Justify by giving two examples.

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22. Does self incompatibility imposes and restrictions on autogamy? Give reasons and suggest the method of pollination in such plants.

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Questions For Practice Part I Flower Pre Fertilisation Events And Pollination Long Answer Type Questions

1. Explain the phenomenon of double fertilisation.

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2. Drow the diagram of a micrrosporangium and label its wall layers. Write briefly on the role of the endothecium.

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3. With the help of a neat well- labelled diagram explain the 7-celled , 8 nucleate mature of the female gametophyte .

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Question For Assesement Part I Flower Pre Fertilisation Events And Pollination Very Short Answer Type Questions

1. Individual part or segment of calyx is called

A. sepal

B. petal

C. tepal

D. corolla

Answer: A

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2. Chalazal pole is present

A. opposite to micropyle

B. at the origin of integuments

C. opposite to nucellus

D. near the embryo sac

Answer: A

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3. Give the name of the type of ovule in which the hilum, chalaza and the micropyle lie in the same longitudinal axis.

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4. Name the type of pollination as a result of which genetically different types of pollen grains of same species land on the stigma.

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5. (i) An ovule is a differentiated megasporangium.

(ii) Megaspore mother cell is found near the region of nucellus.

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6. Aquatic plants like water hyacinth and water lily are pollinated by.....

Watch Video Solution

7. Intine is made up of .....

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Question For Assesement Part I Flower Pre Fertilisation Events And Pollination Short Answer Type Questions

1. What is the importance of micorspore mother cell undergoing meiosis?

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2. What are the commercial uses of pollen grains.

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3. Who are called robbers?

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4. Write a short note on viability of pollen grains in different flowering plants.

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5. Both male and female gametes are non motile in flowering plants, so they have to be brought together for ferlilisation of occur. Write the various ways how this is achieved.

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6. Explain : Give a peculiar adaptation of pollen grains of water pollinated species.

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7. Explain: Wind and water pollinated flowers are not very colourful and do not produce nectar. Give reason.

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8. Explain : Why is pollination by wind more common amongst abiotic pollinations?

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9. How does cleistogamy ensure autogamy?

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10. State one advantage and one disadvantage of cleistogamy to the plant.

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11. What are the advantages and disadvantages of cross pollination?

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Question For Assesement Part I Flower Pre Fertilisation Events And Pollination Long Answer Type Questions

1. With diagrams, describe the development of male and female gametophyte in angiosperms.

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Question For Practice Part Ii Post Fertilisation Structures And Events Very Short Answer Type Questions

1. In angiosperms, triple fusion is required for the formation of

A. embryo

B. endosperm

C. seed coat

D. fruit wall

Answer: B

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2. Zygoete divides by an asymmetric mitotic division to form two cells. Out of these the cells towards chalazal side is known as

A. apical cell

B. basal cell

C. both a and b

D. None of these

Answer: A

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3. Basal cell divides to produce

A. haustorium

B. suspensor

C. hypobasal cell

D. epibasal cell

Answer: B

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4. Embryo axis above the cotyledon is celled as

:

A. epicotyl

B. hypocotyl

C. both a and b

D. None of these

Answer: A

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5. Root cap enclosed in undifferentiated sheath is called as

A. epicotyl

B. coleorhiza

C. coleptile

D. scutellum

Answer: B

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6. Which type of endosperm is found in Asphodelus?

A. Helobial

B. Cellular

C. Nuclear

D. Both a and b

Answer: A

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7. True polyembryony occurs in

A. Citrus

B. Mango

C. jamun

D. All of these

Answer: D

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8. Adeventive embryony in Citrus due to :

A. nucellus

B. integuments

C. zygotic embryo

D. fertilised egg

Answer: A

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9. The phenomenon of the formation of gametophyte directly from sporophyte without meiosis is

A. apospory

B. apogamy

C. parthenogenesis

D. amphimixis

Answer: A

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10. The ..... marks the point of attachment to the stalk.

(micropyle, hilum, coleoptile)

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11. Perisperm is:

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12. Apomixis is the development of seeds with fertilisation.

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13. In a zygote, the terminal cell situated towards the chalazal pole is called

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14. The position of plumule in monocot embryo is .....

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15. The part of pistil which develops into fruits is .....

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16. A type of endosperm, which is an intermediate between cellular and nuclear type.

Watch Video Solution

17. The portion of the embryonal axis above the level of attachment of scutellum.

Watch Video Solution

18. An embryo sac directly produced from a nucellar cell.

Watch Video Solution

Question For Practice Part Ii Post Fertilisation Structures And Events Short Answer Type

Questions

1. Which of the following is a post - fertilization event in flowering plants ?

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2. Why do you think that the zygote is dormant for some time in a fertilised ovule?

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3. In angiosperms, zygote is diploid while primary endosperm cell is triploid. Explain.

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4. Why do the integuments of an ovule harden and the water content gets highly reduced as the seed matures?

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5. Strawberry is sweet and eaten raw just like any other fruit. Why do botanists call it a false fruit?

Watch Video Solution

6. Are pollination and fertilisation necessary in apomixis?

Watch Video Solution

7. Give reasons why hybrid seeds are to be produced year after year.

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8. Starting with the zygote, draw the diagrams of the different stages of embryo developments in the dicot.

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9. Describe the process of development of endosperm in angiosperms.

Watch Video Solution

10. Why is tender coconut considered a healthy source of nutrition?

Watch Video Solution

11. How are pea seeds different from castor seeds with respect to endosperm?

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12. Double fertilisation is reported in plants of both, castor and groundnut. However, the mature seeds of groundnut are non-albuminous and castor are albuminous. Explain the post-fertilisation events that are responsible for it.

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13. Explain any three advantages that seeds offer to angiosperms.

Watch Video Solution

14. What is apomixis? Comment on its significance. How can it be commercially used?

Watch Video Solution

Question For Assements Part Ii Post Fertilisation Structures And Events Very Short Answer Type Question

1. Albuminous seed

A. has no endosperm

B. has thick cotyledons

C. have food storage in cotyledons

D. Both a and b

Answer: c

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2. Fill in the blank: The part of embryonal axis above the level of cotyledons is called _____.

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3. The embryonal axis below the level of cotyledons is called_____

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4. Thalumus contributes in the fruit formation apple.

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5. The thick swollen embryonal leaf filled with reserve food is called

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Question For Assements Part Ii Post Fertilisation Structures And Events Short Answer Type

Question

1. How long do the seeds remain alive after they are dispersed? Explain with example.

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2. In the majority of angiosperms, the zygote divides by an asymmetric mitotic division and generates two cells. Discuss the facts of these cells.

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3. Scutellum in the single cotyledon found in the monocot embryo only. Explain.

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4. Micropyle remains as a small opening found on the seed coat. Do you agree? Also, state its function.

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5. Why do you think is mango called a true fruit and strawberry is called a false fruit?

Watch Video Solution

6. Comment on the genetic nature of embryos produced through apomixis. Can they be called clones?

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Question For Assements Part Ii Post Fertilisation Structures And Events Short Answer Type Question Different Between The Following

1. Differentiate between apocarpous gynoecium and syncarpous gynoecium .

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2. Microsporogenesis and Megasporogenesis.

Watch Video Solution

3. Chasmogamous and Cleistogamous flower.

Watch Video Solution

4. Differentiate between : Geitonogamy and xenogamy.

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5. Anemophilous flowers and Entomophilous flowers.

Watch Video Solution

6. Integument and Testa.

Watch Video Solution

7. Perisperm and Pericarp.

Watch Video Solution

8. Male and Female gametophyte.

Watch Video Solution

9. Differentiate between endosperm and perisperm

Watch Video Solution

Odisha Bureau S Textbook Solutions Very Short Answer Type Questions

1. When gynoecium matures first it is called _____ to effect cross pollination .

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2. In Ornithophily , the agents for cross pollination are _____

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3. Zygote develops from _____ cell of the embryo sac .

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4. Fertilisation was discovered by.....

(Strasburger, Mendel, Nitsch, Bower)

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5. Due to triple fusion , _____ is formed .

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6. The innermost layer of wall layers is _____

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7. Straight ovules are called _____

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8. Contrivance of self pollination is _____

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9. Androecium and gynoecium whorls are present in the same flower.

 Watch Video Solution

10. Both the essential whorls are absent in a flower.

 Watch Video Solution

11. Petals are united in a flower.

 Watch Video Solution

12. Free carpels in a flower.

 Watch Video Solution

13. Transfer of pollen grains from anther to stigma of the same flower.

 Watch Video Solution

14. The process in which the male gamete fertilises with egg.

Watch Video Solution

15. Pollination in aquatic plants.

Watch Video Solution

16. Fusion of one male gamete with definitive nucleus.

Watch Video Solution

17. Anemopilous flowers are pollinated by ants.

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18. Dichogamy is found in bisexual flowers where stamens and carpels mature at same time.

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19. The ovule is attached to the placenta of ovary by means of nucellus.

Watch Video Solution

20. Animals acting as agents of pollination are called anemophily.

Watch Video Solution

21. Polvembryony involves the development of one embryo.

Watch Video Solution

22. The cells present on two sides of egg in the egg apparatus are called .....

Watch Video Solution

23. The outer wall of the pollen grain is called .....

Watch Video Solution

24. The male gametes are formed from..... cell.

Watch Video Solution

25. Parthenogenesis means development of fruits without

Watch Video Solution

26. The endosperm in which first division is cellular and subsequential cellular is called ..... endosperm

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27. In grafting the part of the plant detached is called.....

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28. In self pollination pollen is transferred to stigma of the .....flower.

Watch Video Solution

29. The fertile cells from which microspores or megaspores developed are called....cells.

Watch Video Solution

30. In maize plant, male inflorescence is borne at ..... portion of the plant.

Watch Video Solution

31. Fusion of egg with male gamete is called :

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Odisha Bureau S Textbook Solutions Short Answer Type Questions

1. Parthenogenesis

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2. Allogamy

Watch Video Solution

3. Herkogamy

Watch Video Solution

4. Geitionogamy

Watch Video Solution

5. Xenogamy

Watch Video Solution

6. Self sterility.

Watch Video Solution

7. WRITE SHORT NOTES ON : Entomophily

Watch Video Solution

8. WRITE SHORT NOTES ON : Embryo sac

Watch Video Solution

9. Write short notes on Embryo sac.

Watch Video Solution

10. WRITE SHORT NOTES ON : Micropropagation

 Watch Video Solution

11. WRITE SHORT NOTES ON : Polyembryony

 Watch Video Solution

12. Write a short note on self-incompatibility.

 Watch Video Solution

13. DISTINGUISH BETWEEN Pollination and fertilization

Watch Video Solution

14. DISTINGUISH BETWEEN Dichogamy and herkogamy

Watch Video Solution

15. Protogyny and Protandry.

Watch Video Solution

16. Differentiate between: Self pollination and cross pollination

Watch Video Solution

17. Distinguish between Embryo and Endosperm.

Watch Video Solution

18. Gamete and Zygote.

 Watch Video Solution

19. Micropyle end and Chalazal end.

 Watch Video Solution

20. Zoophily and Anemophily.

 Watch Video Solution

21. Describe how double fertilisation and triple fusion occur in the angiosperms.

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22. Porogamy and Chalazogamy.

Watch Video Solution

23. Differentiate between apospory and apogamy.

Watch Video Solution

24. Monocot and Dicot embryo.

Watch Video Solution

25. Differentiate between nuclear endosperm and cellular endosperm

Watch Video Solution

Odisha Bureau S Textbook Solutions Long Answer Type Questions

1. Distinguish between self and cross pollination. Describe three conditions that favour cross pollination.

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2. Give an account of contrivances of self and cross pollinations.

Watch Video Solution

3. Describe how different agents help in cross pollination.

Watch Video Solution

4. Make a list of any three outbreeding devices that flowering plants have developed and explain how they help to encourage cross pollination.

Watch Video Solution

5. Describe how double fertilisation and triple fusion occur in the angiosperms.

Watch Video Solution

6. With diagrams, describe the development of male and female gametophyte in angiosperms.

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Chapter Practice Very Short Answer Type Questions

1. Non endospermic seeds are seen in

A. groundnut

B. pea

C. beans

D. All of these

Answer: D

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2. Primary Endosperm Cell (PEC) is formed

A. after triple fusion

B. before triple fusion

C. at the time of syngamy

D. always persisted

Answer: A

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3. Express in one words

The number of female nuclei involved in double fertilisation.

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4. Correct the sentences, if required by changing the underlined word.

Largest cell of ovule is $\underline{\text{antipodal cell}}$

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5. Correct the sentences, if required by changing the underlined word.

Cleistogamous flowers are bird pollinated

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6. Continued self pollination results in.....

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Chapter Practice Short Answer Type I Questions

1. How many cellular nuclei do the pollen tube of angiosperm have? What is the ploidy of each of the nuclei?

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2. Write the location and function of synergid.

Watch Video Solution

3. Function of filiform apparatus is to

Watch Video Solution

4. How do flowers reward their insect pollinators? Explain.

 Watch Video Solution

5. What is the post fertilisation changes occur in following floral parts?

Sepals

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6. What post fertilisation changes occur in following floral parts?

Stamens

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7. What post fertilisation chagnes occur in following floral parts?

Ovary

 Watch Video Solution

8. What post fertilisation chagnes occur in following floral parts?

Ovules

Watch Video Solution

9. What post fertilization changes occur in following floral parts?

Stigma and Style

Watch Video Solution

10. What post fertilisation chagnes occur in following floral parts?

Synergids

Watch Video Solution

11. What post fertilization changes occur in following floral parts?

Antipodal cells

Watch Video Solution

12. Describe polyembryony and its types.

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Chapter Practice Short Answer Type Ii Questions

1. Differentiate between hydrophily and entomophily.

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2. Differentiate between polyembryony and parthenogenesis.

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Chapter Practice Long Answer Type Ii Questions

1. Briefly discuss the formation of male gametophyte.

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