



BIOLOGY

BOOKS - MBD -HARYANA BOARD

SEXUAL REPRODUCTION IN FLOWERING PLANTS

Example

1. Name the parts of an angiosperm flower in which development of male and female

gametophyte take place.



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2. Differentiate between microsporogenesis and megasporogenesis. Which type of cell division occur during these events ? Name the structure formed at the end of these two events



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3. Arrange the following terms in a correct development sequence: Pollen grain, sporogenous tissue, microspore tetrad, pollen mother cell, male gamete.



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4. With a neat, labelled diagram, describe the parts of a typical angiosperm ovule.



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5. What is meant by monosporic development of female gametophyte?



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6. With a neat diagram explain the 7-celled, 8-nucleate nature of the female gametophyte.



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



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



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



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10. What is bagging technique? How is it useful in a plant breeding programme?



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



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12. Why do you think the zygote is dormant for sometime in a fertilized ovule?



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13. Differentiate:

Hypocotyl and epicotyl



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14. Differentiate between:

(a) Hypocotyl and epicotyl,

(b) Coleoptile and coleorrhiza,

(c) Integument and testa,

(d) Perisperm and pericarp.



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17. Why is apple called a false fruit? Which part(s) of the flower forms the fruit?



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18. What is meant by emasculation? When and why does a plant breeder employ this

technique?



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19. If one can induce parthenocarpy through the application of growth substances, which fruits would you select to induce parthenocarpy and why?



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20. Explain the role of tapetum in the formation of pollen-grain wall .



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21. What is apomixis ?Write its importance.



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22. Name special methods of reproduction.



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23. Name the most important characteristic of plants and animals.



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24. What is the dithecous anther?



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25. Name the structure formed by development of microsporangita.



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26. What are germ pores?



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27. Pollen grains can be preserved as fossil because



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28. What is chemical nature of exine?



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29. Name the following :

Receptive part of a carpel



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30. The thick outer layer of the pollen grains is known as _____ .



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31. Name the following :

Nutritive tissue in the ovule.



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32. Name abiotic agencies of pollination.



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46. Define palynology.



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47. Define chiropterophily.



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48. Define orinthophily.



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49. What do you mean by hydrophily ?



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50. Define porogamy.



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51. Chalazogamy.



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52. Mesogamy is



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55. Give an account of a structure of typical anther.





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58. Draw a diagram of sectoral view of Pollen grain.



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60. Describe the structure of typical embryo sac and the functions performed by its various constituents.



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61. How will you differentiate pollination and fertilization?



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62. Tabulate the differences between self-pollination and cross-pollination.



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63. List the advantages of self-pollination.



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64. What are the disadvantages of self-pollination?



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65. Give the characters of wind pollinated flowers.



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66. What are the advantages of cross pollination?



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67. Differentiate between quiescence and dormancy with reference to seed germination.



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68. Why do you think the zygote is dormant for sometime in a fertilized ovule?



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69. Describe the structure of fruit.





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70. What is the function of two male gametes produced by each pollen grain in angiosperms?



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71. Write any two differences between apocarpous and syncarpous ovary.



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72. What is Cleistogamy?



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73. What is the fate of secondary nucleus and integument after fertilisation?



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74. Draw a well labelled diagram of L.S. of ovary showing the process of fertilization.



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75. Discuss the structure of maize grain.



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76. Draw labelled diagram of L.S. of Maize grain.



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77. Give a labelled diagram of pistil showing in it the path of male gametophyte from the stigma to embryo sac.



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78. Give structure of female gametophyte of flowering plants.



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79. Show the germination of pollen grain with diagrams only.



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80. Write a note on the development of endosperm. Mention the types with examples



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81. Write an essay on the development of female gametophyte. Illustrate the answer with suitable diagram.



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82. Draw a diagram a mature female gametophyte.



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83. Write steps of double fertilization.



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84. The development of male gametophyte in angiosperms is



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85. Write four advantages of using plant tissue culture for propagation.



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86. Write five characters of insect polinated flowers.Give examples.



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87. Briefly explain contrivances for self pollination.



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88. What is pollination? Name different types of pollination.



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163. Draw and explain structure of maize grains.



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168. Draw a diagram a mature female gametophyte.



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169. Write steps of double fertilization.



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170. Draw the stages of development of embryo in a dicot angiosperm.



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171. Describe the development of male gametophyte in an angiosperm.



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172. Write four advantages of using plant tissue culture for propagation.



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173. Write five characters of insect polinated flowers.Give examples.



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174. Briefly explain contrivances for self pollination.



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175. What is pollination? Name different types of pollination.



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Exercise

1. Fill in the blanks with suitable words:

Fertilization in angiosperms is referred to as fertilization.



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2. Fill in the blanks with suitable words:

In flowers, the thalamus grows upwards completely enclosing the ovary and the stamens, petals and sepals are borne above the ovary.



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3. Fill in the blanks with suitable words:

Stalk of ovule is called



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4. Fill in the blanks with suitable words:

During microsporogenesis, Ubisch bodies released from tapetum are coated with sporopollenin to cause thickening of



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5. Fill in the blanks with suitable words:

In Calotropis, all the microspores of anther lobe remain united to form



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6. Fill in the blanks with suitable words:

Albuminous seeds store reserve food materials in



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7. State true or false :

The female gametophyte of a typical dicot at the time of fertilization is 8 celled.





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8. State true or false :

Ebryo sac is found in ovule.



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9. State true or false :

Mustard and tomato are examples of hypogynous flower.



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10. State true or false :

Removal of anther from bud is called emasculation.



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11. State true or false :

A cleistogamous flower remains closed to help self pollination.



Watch Video Solution

12. State true or false :

In angiosperm, endosperm develops after double fertilization.



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13. A mature ovule that contains an embryo, with stored food enclosed in a protective coat.



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14. The female gametophyte of flowering plants that contains an egg cell.



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15. A kind of reproduction in which the new individuals are formed without involvement of meiosis and syngamy.



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16. A kind of self - pollination in which the pollens from the anthers of one flower are transferred to the stigma of another flower borne on the same plant.



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17. Testa and tegmen are present in :

A. Flower

B. Ovary

C. Seed

D. Seed coat.

Answer:



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18. Allogamy is a form of :

A. Self-pollination

B. Cross-pollination

C. Both a and b

D. None of above.

Answer:



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19. Male gametes are formed from:

A. Generative cell

B. Tube cell

C. Body cell

D. Prothallial cell.

Answer:



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20. The fertilization in which male gametes are carried through pollen tube is known as:

- A. Syngamy
- B. Porogamy
- C. Siphonogamy
- D. Chlazogamy.

Answer:



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21. Egg apparatus is present at:

- A. chalazal end of ovule
- B. micropylar end
- C. in the centre of ovule
- D. scattered in the body of ovule.

Answer:



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22. Developing pollen grain obtains its nutrition from:

- A. epidermis
- B. tapetum
- C. endotheicum
- D. middle layer.

Answer:



23. Largest cell of the ovule is

- A. ntipodal cell
- B. megaspore mother cell
- C. central cell
- D. Size of cells variable.

Answer:



24. Which one is a female gamete?

A. Embryo

B. Embryo sac

C. Endosperm

D. Synergid

Answer:



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25. Growth of pollen tube inside the ovule is due to:

- A. hydrotropic movement
- B. Chemotropic movement
- C. geotropic movement
- D. None of above.

Answer:



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26. Transfer of pollen grains from anther of flower of one plant to stigma of another flower of another plant is called:

- A. Autogamy
- B. Xenogamy
- C. Geitonogamy
- D. Cleistogamy.

Answer:



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