BIOLOGY

BOOKS - MBD

SEXUAL REPRODUCTION IN FLOWERING PLANTS

Example

1. Name the most important characteristics of plants and animals.

Watch Video Solution

2. What is reproduction?

Watch Video Solution

3. Give examples of dioecious plants.

Watch Video Solution

4. What is flower?

Watch Video Solution

5. What is bithecous anther ?

Watch Video Solution

6. What is homogamy?

Watch Video Solution

7. Name the two parts of a typical stamen?

Watch Video Solution

8. Write functions of outer three wall layers of microsporangium.

Watch Video Solution

9. Orinthophilous flowers are pollinated by.....

Watch Video Solution

10. What are germ pores?

Watch Video Solution

11. Why Pollen grain can be preserved as fossils?

Watch Video Solution

12. What is chemical nature of exine?

Watch Video Solution

13. How many nuclei are present in mature pollen tube in angiospermic plant just before fertilization?

Watch Video Solution

14. Give one example of wind pollinated plant.

Watch Video Solution

15. The approxiamte size of generally spherical pollen grain is.

Watch Video Solution

16. Name the two cells present in mature pollen grain.

Watch Video Solution

17. What are the diadvantages of self-pollination?

Watch Video Solution

18. What is double fertilization?

Watch Video Solution

19. Is emasculation required in all kinds of flower.

Watch Video Solution

20. Name the components of a typical dicotyledonous embryo.

Watch Video Solution

21. Name the parts of angiospermic flower in which development of male and female gametophyte take place.

Watch Video Solution

22. Differentiate between microsporogenesis and megasporogenesis. Which type of cell division occurs during these events? Name the structures formed at the end of these two events.

Watch Video Solution

23. Arrange the following terms in a correct development sequence: Pollen grain,

sporogenous tissue, microscope tetrad, pollen mother cell, male gamete.

Watch Video Solution

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

Watch Video Solution

25. What do you mean by monosporic development of female gametophyte?

Watch Video Solution

26. Withthe help of diagrams, explain the development of female gametophyte from a microspore in an angiosperm.

Watch Video Solution

27. What are possible types of pollination in chasmagamous flowers. Give reasons.

Watch Video Solution

28. List three strategies that a bisexual chasmogamous flower can evolve to prevent self pollination (autogamy).

Watch Video Solution

29. Why does self-incompatibility not lead to seed formation in self-incompatible species ?

Watch Video Solution

30. What is bagging technique? How is it useful in plant breeding programmes?

Watch Video Solution

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

Watch Video Solution

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

Watch Video Solution

33. Differentiate:

hypocotyl and epicotyl

Watch Video Solution

34. Where would you look for coleoptile and coleorhiza?

Watch Video Solution

35. Differentiate:

Integument and testa

Watch Video Solution

36. Differentiate:

Perisperm and pericarp.

Watch Video Solution

37. Why is apple called a false fruit? Which part of flower form its fruit?

Watch Video Solution

38. What is meant by emasculation? When and why a plant breeder employ this technique?

Watch Video Solution

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

Watch Video Solution

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

Watch Video Solution

41. What is Apomixis ? What is its importance ?

Watch Video Solution

42. Name the component cells of egg apparatus in an embryo sac.

Watch Video Solution

43. Name the part of gynoecium that determines the compatible nature of pollen grain.

Watch Video Solution

44. Name the common function that cotyledons and nucellus perform.

Watch Video Solution

45. The meiocyte of onion plant contain 32 chromosome. Workout the number of chromosome found in its endosperm?

Watch Video Solution

46. Study of pollen grains is called

A. a. microbiology

B. b. anthology

C. c. palynology

D. d. pomology

Answer:

Watch Video Solution

47. Name the parts of the gynoecium which develop into fruit and seeds.

Watch Video Solution

48. In a case of polyembryony, if an embryo develops from the synergid and another from the nucellus which is haploid and which is diploid?

Watch Video Solution

49. Can an unfertilised apomictic embryo sac give rise to a deploid embryo? If yes then how?

Watch Video Solution

50. What is self-incompatibility ?

Watch Video Solution

51. Name the type of pollination in self - incompatiable plants.

Watch Video Solution

52. Draw a labelled diagram of the internal structure of a mature embryo sac of an

angiosperm.

Watch Video Solution

53. Which is the triploid tissue in a fertilised ovule ? How is the triploid condition achieved ?

Watch Video Solution

54. Are pollination and fertilisation necessary in apomixis? Give reasons.

Watch Video Solution

55. The flower of brinjal is referred to as chasmogamous, while that of beans is cleistogamous. How are they different from each other?

Watch Video Solution

56. How is pollination carried out in water plants?

Watch Video Solution

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

Watch Video Solution

58. List three strategies that a bisexual chasmogamous flower can evolve to prevent self pollination (autogamy).

Watch Video Solution

59. Given below are events that are observed in an artificial hybridisation programme. Arrange them in correct sequential order in which they are followed in hybridization programme.

Re-bagging

Selection of parents

Bagging

Dusting of pollen on stigma

Emasculation

Collection of pollen from male parent.

Watch Video Solution

60. Name the type of pollination in self - incompatiable plants.

Watch Video Solution

61. An anther with malfunctioning tapetum often fails to produce viable male gametophyte. Give one reason?

Watch Video Solution

62. What is polyembryony and how can it be commercially exploited?

Watch Video Solution

63. Vivipary automatically limits the number of offspring in a litter. Why?

Watch Video Solution

64. What is polyembryony? How can it be commercially exploited?

Watch Video Solution

65. Are parthenocarpy and apomixis different phenomena? Discuss.

Watch Video Solution

66. Why does the zygote begin divide only after the division of primary endosperm cell (PEC) ?

Watch Video Solution

67. The generative cell of a two-celled pollen divides in the pollen tube but not in a three-celled pollen. Give reasons.

Watch Video Solution

68. The true embryo develops as a result to fusion of

A. a. two polar nuclei of embryo sac

B. b. egg cell and male gamete

C. c. synergid and male gamete

D. d. antipodal cell and male gamete

Answer:


Watch Video Solution

69. Describe the stages in embryo development in a dicot plant.

Watch Video Solution

70. What are possible types of pollination in chasmagamous flowers. Give reasons.

Watch Video Solution

71. Draw a labelled diagram of the internal structure of a mature embryo sac of an angiosperm.

Watch Video Solution

72. Write about the structure of microsporangium with suitable diagram

Watch Video Solution

73. Embryo sacs of some apomictic species appear normal but contain diploid cells. Suggest a suitable explanation for this condition.

Watch Video Solution

74. Among the terms listed below those that of are not correct names for a floral whorl are:

Androecium

Carpel

Corolla

Sepal

A. I and iv

B. iii and iv

C. ii and iv

D. I and iii

Answer:

Watch Video Solution

75. Embryo sac is to ovule as is to an anther.

A. Stamen

B. Filament

C. Pollin grain

D. Androecium

Answer:

 Watch Video Solution

76. In a typical complete, bisexual and hypogynous flower the arrangements of floral whorls on the thalamus from the outer most to the innesmost is

A. Calyx, corolla, androecium and gynoecium

B. Calyx, corolla, gynoecium and androecium

C. Gynoecium, androecium, corolla and calyx

D. Androecium, gynoecium, corolla and clayx

Answer:

 Watch Video Solution

77. A dicotyledonous plant bears flowers but never produces furits and seeds. The most probable cause for the above situation is:

A. Plant is dioecious and bears only psitillate flowers

B. Plant is dioecious and bears both pistillate and staminate flowers

C. Plant is monoecious

D. Plant is dioecious and bears only staminate flowers.

Answer:

Watch Video Solution

78. The outermost and innermost wall layers of micro-sporangium in an anther are respectively.

A. Endothecium and tapetum

B. Epidermis and endodermis

C. Epidermis and middle layer

D. Epidermis and tapetum

Answer:

 Watch Video Solution

79. During microsporogenesis, meiosis occur in:

A. Endothecium

B. Microspore mother cells

C. Microspore tetrads

D. Pollen grains

Answer:

Watch Video Solution

80. From among the sets of terms given below, identify those that are associated with the gynoecium.

A. Stigma, ovule, embryo sac, placenta

B. Thalamus, pistil, style, ovule

C. Ovule, ovary, embryo sac, tapetum

D. Ovule, stamen ovary, embryo sac

Answer:

81. Starting from the innermost part, the correct sequence of parts in an ovule are:

A. egg, nucellus, embryo sac, integument

B. egg, embryo sac, nucellus, integument

C. embryo sac, nucellus, integument, egg

D. egg, integument, embryo sac, nucellus

Answer:

 Watch Video Solution

82. From the statements given below choose the option that are true for a typical female gametophyte of a flowering plant:

It is 8-nucleate and 7-celled at maturity

It is free-nuclear during the development

It is situated inside the integument but outside the nucellus

It has an egg apparatus situated at the chalazal end.

A. I and iv

B. ii and iii

C. I and ii

D. ii and iv

Answer:

83. Autogamy can occur in a chasmogamous flower if:

A. Pollen matures before maturity of ovule.

B. Ovules mature before maturity of pollen

C. Both pollen and ovules mature simultaneously

D. Both anther and stigma are of equal lengths

Answer:

Watch Video Solution

84. Choose the correct statement from the followoing:

A. Cleistogamous flowers always exhibit autogamy

B. Chasmogamous flowers always exhibit geitonogamy

C. Cleistogamous flowers exhibit both autogamy and geitonogamy

D. Chasmogamous flowers never exhibit autogamy

Answer:

85. A particular species of plant produces light, non-sticky pollen in large numbers and its stigmas are long and feathery. These modification faciliate pollination by:

A. Insects

B. Water

C. Wind

D. Animals

Answer:

Watch Video Solution

86. In a fertilised embryo sac, the haploid, diploid and triploid structures are;

A. Synergid, zygote and primary endosperm nucleus

B. Synergid, antipodal and polar nuclei

C. Antipodal, synergid and polar nuclei

D. Synergid, polar nuclei and zygote.

Answer:

Watch Video Solution

87. In an embryo sac, the cells that degenerate after fertilisation are:

A. Synergids and primary endosperm cell

B. Synergids and antipodals

C. Antipodals and priamry endosperm cell

D. Egg and antipodals

Answer:

Watch Video Solution

88. While planning for an artificial hybridization programme involving dioecious plants, which of the following steps would not be relevant:

A. Bagging of female flower

B. Dusting of pollen on stigma

C. Emasculation

D. Collection of pollen

Answer:

Watch Video Solution

89. In the embryos of a typical dicot and a grass, true homologous structures are:

A. Coleorhiza and coleoptile

B. Coleoptile and scutellum

C. Cotyledons and scutellum

D. Hypocotyl and radicle

Answer:

Watch Video Solution

90. The phenomenon observed in some plants wherein parts of the sexual apparatus is used for forming embryos without fertilisation is called:

A. Parthenocarpy

B. Apomixis

C. Vegetative propagation

D. Sexual reproduction

Answer:

Watch Video Solution

91. What is homogamy?

Watch Video Solution

92. Name the structure formed by development of microsporangia.

Watch Video Solution

93. What is chemical nature of exine?

Watch Video Solution

94. Why Pollen grain can be preserved as fossils?

Watch Video Solution

95. Mention the pollinating agent of an inflorescence of small dull coloured flowers with well exposed stamens and large feathery stigma. Give any one characteristics of pollen grain produced by such flowers.

Watch Video Solution

96. A bilobed, dithecous anther has 100 microscopes mother cells per

microsporangium. How many male gamepophytes this anther can produce?

Watch Video Solution

97. Which are the three cells found in pollen grains when it is shed at the three celled stage?

Watch Video Solution

98. Name the part of flower which the tassels of corn-cob represent.

Watch Video Solution

99. Differentiate flower and inflorescence.

Watch Video Solution

100. List the functions of a flower.

Watch Video Solution

101. Why are angiosperm anthers called dithecous?

Watch Video Solution

102. Write about the structure of microsporangium with suitable diagram

Watch Video Solution

103. Name the various methods by which anther dehisces.

Watch Video Solution

104. Describe the structure of typical microspore (pollen grain).

Watch Video Solution

105. Name the organic material of exine and intine of an angiospermic pollen grain. Mention their role.

Watch Video Solution

106. What is pollen allergy? Illustrate with an example.

Watch Video Solution

107. Why are pollens used as energy supplements?

Watch Video Solution

108. Is it possible to store pollens? If yes, what is the significance?

Watch Video Solution

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

Watch Video Solution

110. Draw a diagram of a mature embrryo sac of angiosperm, label its any six parts.

Watch Video Solution

111. Describe the process of megasprogensis, in an angiosperm.

Watch Video Solution

112. Describe the forms of ovules.

Watch Video Solution

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

Watch Video Solution

114. Give advantages of self pollination.

Watch Video Solution

115. What are the diadvantages of self-pollination?

Watch Video Solution

116. Write four characteristics of wind pollinated flowers.

Watch Video Solution

117. Write any six characteristic features of Entomophilous flowers.

Watch Video Solution

118. Give advantages of cross-pollination.

Watch Video Solution

119. Some flowers, selected for artificial hybridisation, do not require emasculation but bagging is essential for them. Give a reason.

Watch Video Solution

120. Differentiate anemophilous and entomophilous flowers.

Watch Video Solution

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

Watch Video Solution

122. Write steps of double fertilization.

Watch Video Solution

123. Give an account of significance of double fertilisation.

Watch Video Solution

124. Differentiate dicot and monocot embryos.

Watch Video Solution

125. List the post-fertilization events in angiosperms.

Watch Video Solution

126. Describe the development of monocot embryo with suitable diagrams.

Watch Video Solution

127. Describe the structure of fruit.

Watch Video Solution

128. Write an account on various types of fruit.

Watch Video Solution

129. What are main functions of fruits?

Watch Video Solution

130. Explain the biological and economic importance of fruits.

Watch Video Solution

131. What are advantages of seeds to plants and mankind?

Watch Video Solution

132. What is fate of floral parts after fertilisation?

Watch Video Solution

133. Explain the structure of monocot endospermic seed with the help of well labelled diagram.

Watch Video Solution

134. Draw a seed of angiosperms.

Watch Video Solution

135. Banana is a parthenocarpic fruit whereas oranges shwo polyembryony. How are they different from each other with respect to seeds?

Watch Video Solution

136. Where does triple fusion take place in a flower plant? why is it called to?

Watch Video Solution

137. Even though each pollen grain has two male gametes, why are at least 10 pollen grains and not 5 pollen grains required to fertilise 10 ovules in a particular carpel?

Watch Video Solution

138. Suppose haploid number chromosomes in a flowering plant is 12, what will be the ploidy in the cells for integuments, nucellus, antipodals , endosperm and embryo of that plant?

Watch Video Solution

139. How many haploid cells are present in mature female gametophyte of a flowering plant. Name them.

Watch Video Solution

140. "Apomixis is a form of asexual reproduction that mimics sexual reproduction

in plants". Explain with the help of a suitable example.

Watch Video Solution

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

Watch Video Solution

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

Watch Video Solution

143. How are parthenocarpic fruit produced by some plants and apomictic seeds by some? Explain.

Watch Video Solution

144. When do farmers prefer using apomictic seeds?

Watch Video Solution

145. State advantages and disadvantages of cleistogamy?

Watch Video Solution

146. In a fruit, name the parts which is protective in function and that which is responsible for producing new plants.

Watch Video Solution

147. Draw diagram showing false fruits of apple and strawberry.

Watch Video Solution

148. Draw a well labelled diagram of T.S. of anther

Watch Video Solution

149. Draw a longitudinal section of a post-pollinated pistil showing entry of pollen tube into a mature embryo sac. Label filiform apparatus, chalazal end, hilum, antipodals, male gametes and secondary nucleus.

Watch Video Solution

150. Explain the germination of pollen grain.

Watch Video Solution

151. Describe the structure of a typical monosporic embryo sac found in flowering plant.

Watch Video Solution

152. Discuss in detail the development of dicot embryo with suitable diagrams.

Watch Video Solution

153. Why does endosperm development precede embryo development in angiosperm seeds? State the role of endosperm in mature albuminous seeds.

Watch Video Solution

154. The following statements describe the wind pollinated plants. Which one of these statements in incorrect?

A. (i) The pollen grains are sticky

B. (ii) Stamens are well exposed

C. (iii) Flowers often have a single ovule

D.

Answer:

Watch Video Solution

155. Write briefly about formation of Endosperm. Explain three types of Endosperms with diagrams.

Watch Video Solution

156. Give a brief account of post-pollination events.

Watch Video Solution

157. Differentiate simple, aggregate and composite fruit.

Watch Video Solution

Exercise

1. What is the genetic constitution of endosperm in angiosperms?

Watch Video Solution

2. Mention the reason for difference in ploidy of zygote and primary endosperm nucleus in an angiosperm?

Watch Video Solution

3. Name the sperm lysins.Which orgenelle secrete it.What is its function?

Watch Video Solution

4. Fertilization is not an obligatory event for fruit production in certain plants. Explain the statement.

Watch Video Solution

5. Where would you look for coleoptile and coleorhiza?

Watch Video Solution

6. On the basis of structure of the embryo, how would you identify whether a given sample of seeds belongs to a monocotyledonous plant or dicotyledonous plant?

Watch Video Solution

7. In a flower, if the megaspore mother cell forms megaspores without undergoing

meiosis and if one of the megaspore develops into an embryo sac, its nuclei would be:

A. Haploid

B. Diploid

C. A few haploid and a few diploid

D. With varying ploidy.

Answer:

 Watch Video Solution

8. In some plants, the female gamete develops into embryo without fertilization. This phenomenon is known as :

A. Parthenocarpy

B. Apomixis

C. Asexual reproduction

D. Sexual reproduction

Answer:

Watch Video Solution

9. Define triple fusion. What is bagging technique?

Watch Video Solution

10. Why are banana seedless?

Watch Video Solution

11. How tapetal cell in microsporangium can become binucleate?

Watch Video Solution

12. What is Apomixis ? What is its importance ?

Watch Video Solution

13. Differentiate true fruit and false fruit. Give example in each case.

Watch Video Solution

14. Give the structure of pollen grain.

Watch Video Solution

15. Discribe the post-fertilisation changes in a flower.

Watch Video Solution

16. Describe the stages in embryo development in a dicot plant.

Watch Video Solution

17. Why the cleavage in mammals referred as simple holoblastic?

Watch Video Solution

18. Draw a diagram of fertilized embryo sac showing zygote and PEN.

Watch Video Solution

19. Why does endosperm development precede embryo development in angiosperm seeds? State the role of endosperm in mature albuminous seeds.