



BIOLOGY

BOOKS - USHA BIOLOGY (ODIA ENGLISH)

SEXUAL REPRODUCTION IN FLOWERING PLANTS

Exercise

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

A. Protogyny

B. Protandry

C. Herkogomy

D. Unisexuality

Answer: A



Watch Video Solution

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

A. Ants

B. Birds

C. Snails

D. Rats

Answer: B



Watch Video Solution

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

A. Egg

B. Synergid

C. Antipodal

D. Nucellus

Answer: A



Watch Video Solution

4. Fertilization was discovered by

A. Strasburger

B. Mendel

C. Nitsch

D. Bower

Answer: A



Watch Video Solution

5. Due to triple fusion , _____ is formed .

A. Zygote

B. Embryo

C. Endosperm

D. Zoospore

Answer: C



Watch Video Solution

6. The innermost layer of wall layers is

A. Tapetum

B. Epidermis

C. Endodermis

D. Endothecium

Answer: A



Watch Video Solution

7. In due course of evolution , it is interesting to find that plants showing allogamy and their pollinators have evolved together . It is called

- A. Co - evolution
- B. Mutualism
- C. Proto cooperation
- D. Commensalism

Answer: A



Watch Video Solution

8. Covering of microspores tetrad is made of :

- A. Callose
- B. Pectocellulose
- C. Sporopollenin
- D. None of these

Answer: A



Watch Video Solution

9. Development of haploid plants from totipotent pollen is called :

A. Androgenesis

B. Parthenocarpy

C. Emasculation

D. Somatic hybridization

Answer: A



Watch Video Solution

10. In pulses , proteins are stored in

A. Endosperm

B. Cotyledons

C. Pericarp

D. Seed coat

Answer: B



Watch Video Solution

11. Seed coat is derived from :

A. Pericarp

B. Epicarp

C. Integuments of ovule

D. Nucellus

Answer: C



Watch Video Solution

12. What is pollen grain ?

A. Microspore mother cell

B. Male gamete

C. Male gametophyte

D. Partially developed embryo

Answer: C



Watch Video Solution

13. The ploidy of testa and tegmen is respectively :

A. n, n

B. $2n, 2n$

C. $2n, n$

D. $2, 2n$

Answer: B



Watch Video Solution

14. Entry of pollen tube through the chalazal end is called

A. Porogamy

B. Mesogamy

C. Basigamy

D. Syngamy

Answer: C



Watch Video Solution

15. Which type of pollen grains are found in insect pollinated flowers ?

- A. Hygroscopic
- B. Light and sticky
- C. Light and rough
- D. Heavy and coloured

Answer: B



Watch Video Solution

16. The aleurone layer in maize grain is specially rich in

A. Starch

B. Lipid

C. Auxins

D. Proteins

Answer: D



Watch Video Solution

17. The plant part which consists of two generations one with in the other is :

A. Germinated pollen grain

B. Embryo

C. Unfertilized ovule

D. Seed

Answer: C



Watch Video Solution

18. The fertilization in which male gametes are carried through pollen tube, is known as

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

Answer: C



Watch Video Solution

19. Aleurone layer is part of :

A. Endosperm

B. Embryo

C. Tegmen

D. Testa

Answer: A



Watch Video Solution

20. Which of these is not essential for allogamy ?

- A. Self sterility
- B. Dichogamy
- C. Herkogamy
- D. None of these

Answer: D



Watch Video Solution

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

A. Funicle

B. Raphe

C. Hilum

D. Chalaza

Answer: A



Watch Video Solution

22. Which one of the following represents an ovule , where the embryo sac becomes horse - shoe shaped and the funiculus and micropyle are close to each other ?

A. Amphitropous

B. Anatropous

C. Circinotropous

D. Atropous

Answer: A



Watch Video Solution

23. Straight ovules are called _____

- A. Anatropous
- B. Campylotropous
- C. Orthotropous
- D. Hernitropous

Answer: C



Watch Video Solution

24. Contrivance of self pollination is

- A. Dicliny
- B. Herkogamy
- C. Self sterility
- D. Cleistogamy

Answer: D



Watch Video Solution

25. Germination of pollen grain on the stigma

is :

A. Autogamy

B. In vivo germination

C. In vitro germination

D. In situ germination

Answer: B



Watch Video Solution

26. Double fertilization results in the production of :

- A. Haploid nucleus
- B. Diploid nucleus
- C. Triploid nucleus
- D. Tetraploid nucleus

Answer: C



Watch Video Solution

27. Which of the following is not functionally analogous with other in the group ?

A. Antheridium

B. Archegonium

C. Oogonium

D. Ovule

Answer: D



Watch Video Solution

28. Coffee plant has chromosome number of 22 in its somatic cells . What is the chromosome number in the edible part of coffee seed ?

A. 22

B. 33

C. 44

D. 11

Answer: B



Watch Video Solution

29. Which one of the following is surrounded by a callose wall ?

A. Male gamete

B. Egg

C. Pollen grain

D. Microspore mother cell

Answer: D



Watch Video Solution

30. Identify the wrong statements regarding post fertilization development

A. The ovary wall develops into pericarp

B. The outer integument of ovule develops into tegmen

C. The fusion nucleus (triple nucleus) develops into endosperm

D. The ovule develops into seed

Answer: B



[Watch Video Solution](#)

31. Raphe is :

- A. Part of flower
- B. Funicle attached to ovule
- C. Ridge formed by funiculus on ovule
- D. Part of nucellus

Answer: C



[Watch Video Solution](#)

32. Male gamete in angiosperm is produced by

:

A. Generative cell

B. Microspore cell

C. Vegetative cell

D. Tube cell

Answer: A



Watch Video Solution

33. What is the direction of micropyle in anatropous ovule ?

A. Upward

B. Downward

C. Right

D. Left

Answer: B



Watch Video Solution

34. Which of the following pairs in angiosperms are diploid and triploid respectively ?

- A. Secondary nucleus and endosperm
- B. Microspore mother cell and egg cell
- C. Polar nucleus and secondary nucleus
- D. Endosperm and antipodal cells

Answer: A



Watch Video Solution

35. Anthesis is a phenomenon which refers to :

A. Reception of pollen by stigma

B. Formation of pollen

C. Development of anther

D. Opening of flower bud

Answer: D



Watch Video Solution

36. Double fertilization is the process in the plants that includes

- A. Syngamy and triple fusion
- B. Only triple fusion
- C. Development of antipodal cells
- D. None of the above

Answer: A



Watch Video Solution

37. Which statement is true for angiosperms ?

A. Microspore is the resultant of mitotic division

B. Microspore is the 1st cell of gametophytic generation

C. Microspore is the resultant of double fertilization

D. Microspore is the 1st cell of endosperm

Answer: B



Watch Video Solution

38. In the monocotyledonous seeds , the endosperm is separated from the embryo by a distinct layer known as

A. Testa

B. Aleurone layer

C. Tegmen

D. Scutellum

Answer: B



Watch Video Solution

39. A hybrid where the cytoplasm of two parental cells are fused by retaining only one parental nucleus is called

A. Asymmetric somatic hybrid

B. Cybrid

C. An interbred

D. Symmetric somatic hybrid

Answer: B



Watch Video Solution

40. Type of pollination in Commelina is

A. Chasmogamy

B. Geitonogamy

C. Xenogamy

D. Cleistogamy

Answer: D



Watch Video Solution

41. Continuous self - pollination of a species develops

A. Strong offsprings

B. Weak offsprings

C. Seedless fruits

D. fruits with many seeds

Answer: B



Watch Video Solution

42. Cellular totipotency is demonstrated by

A. Only gymnospermous cells

B. All plant cells

C. All eukaryotic cells

D. All bacterial cells

Answer: C



Watch Video Solution

43. One advantage of cleistogamy is

A. It leads to greater genetic diversity

B. Seed dispersal is more efficient and wide spread

C. Produces Parental type

D. Each visit of a pollinator results in transfer of hundreds of pollen grains

Answer: C



Watch Video Solution

44. Cotyledons and testa respectively are edible parts in :

A. Cashewnut and Litchi

B. Groundnut and pomegranate

C. Walnut and Tamarind

D. Frenchbean and Coconut

Answer: B



Watch Video Solution

45. Identify the correct statement

- A. Because of marked climatic variations ,
plan growing near the sea shore do not
produce annual rings
- B. The age of the plant can be determined
by ill height
- C. Grafting is difficult in monocot plants as
they have scattered vascular bundles
- D. Healing of damaged tissue is because of
activity of sclerenchyma cells

Answer: C



Watch Video Solution

46. Sporopollenin is chemically :

- A. Fatty substance
- B. Homopolysaccharides
- C. Proteins
- D. Heteropolysaccharides

Answer: A



Watch Video Solution

47. Which of the following statements about Sporopollenin is false ?

- A. Exine is made up of sporopollenin
- B. Sporopollenin is most resistant organic material
- C. Exine has apertures called germ pores where sporopollenin is present

D. Sporopollenin can withstand high temperature and strong acids

Answer: C



Watch Video Solution

48. A dicotyledonous embryo consists of

- A. Radicle only
- B. Embryonal axis only
- C. Cotyledons only

D. Radicle , embryonal axis and cotyledons

Answer: D



Watch Video Solution

49. In which of the following kinds of ovules ,
the embryo sac is horse - shoe shaped ?

A. Hemitropous ovules

B. Orthotropous ovules

C. Amphitropous ovules

D. Circinotropous ovules

Answer: C



Watch Video Solution

50. Apomictic embryos in Citrus arise from :

A. Synergids

B. Maternal sporophytic tissue

C. Antipodals

D. Egg cell

Answer: B



Watch Video Solution

51. Wind pollinated flowers are :

A. Small , brightly coloured , producing

large number of pollens

B. Small , producing large number of pollen

grains

C. Large , producing abundant nectar and
pollens

D. Small , producing nectar and dry pollens

Answer: B



Watch Video Solution

52. When pollens are transferred from anther of a flower to stigma of another flower of the same plant , pollination is referred to as :

A. Geitonogamy

B. Allogamy

C. Xenogamy

D. Siphonogamy

Answer: A



Watch Video Solution

53. Which of the following is pollinated by water ?

A. Viola

B. Yucca

C. Oxalis

D. Zostera

Answer: D



Watch Video Solution

54. In a bisexual flower , if androecium and gynoecium mature at different times , the phenomenon is known as :

A. Dichogamy

B. Herkogamy

C. Heterogamy

D. Monogamy

Answer: A



Watch Video Solution

55. Natural parthenogenesis occurs in

A. Drosophila

B. Housefly

C. Honey bee

D. All of these

Answer: C



Watch Video Solution

56. Common between vegetative reproduction and apomixis is

A. Both applicable to dicots

B. Both bypass flowering phase

C. Both occur around the year

D. Both produce progeny identical to parent

Answer: D



Watch Video Solution

57. Fusion of dissimilar gametes is

A. Allogamy

B. Dichogamy

C. Autogamy

D. Fertilization

Answer: D



Watch Video Solution

58. The development of sporophyte from gametophytic tissue without fusion of gametes is

A. Apospory

B. Apogamy

C. Apomixis

D. Parthenogenesis

Answer: B



Watch Video Solution

59. Bacteria , fungi and lower plants survive during adverse conditions by

A. Suspended growth

B. Migration

C. Diapause

D. Formation of thick - walled spores

Answer: D



Watch Video Solution

60. Which one is common to multicellular fungi , filamentous algae and protonema of mosses

A. Diplontic life cycle

B. Members of kingdom plantae

C. Multiplication by fragmentation

D. Mode of nutrition

Answer: C



Watch Video Solution

61. What would be the number of chromosomes of the aleurone cells of a plant with 42 chromosomes in its root tip cells ?

A. 21

B. 42

C. 63

D. 84

Answer: A



Watch Video Solution

62. Ovule is attached to placenta of ovary wall

by :

A. Funicle

B. Hilum

C. Raphe

D. Chalaza

Answer: A



Watch Video Solution

63. Which of the following statements is wrong ?

- A. Pollen grains remain viable for several months because their outer covering is made of sporopollenin
- B. No enzyme can degrade sporopollenin
- C. Pollen grains are well represented in fossil strata due to sporopollenin
- D. Pollen wall has cavities containing proteins

Answer: A



Watch Video Solution

64. The nectar is produced in the flowers which are pollinated by :

A. Wind

B. Water

C. Man

D. Insects

Answer: D



Watch Video Solution

65. In a flowering plant , the pollen tube first arrives in

A. Egg

B. An antipodal cell

C. A synergid

D. Central cell

Answer: C



Watch Video Solution

66. An organic substance that can withstand environmental extremes and cannot be degraded by any enzyme is

A. Cuticle

B. Sporopollenin

C. Lignin

D. Cellulose

Answer: B



Watch Video Solution

67. Both autogamy and geitonogamy are prevented in

A. Papaya

B. Cucumber

C. Castor

D. Maize

Answer: A



Watch Video Solution

68. What is the function of germ pore ?

A. Emergence of radicle

B. Absorption of water for seed germination

C. Initiation of pollen tube

D. Release of male gametes

Answer: C



Watch Video Solution

69. Which one of the following statements is wrong ?

A. When pollen is shed at two - celled stage
, double fertilization does not take place

B. Vegetative cell is larger than generative
cell

C. Pollen grains in some plants remain
viable for months

D. Intine is made up of cellulose and pectin

Answer: A



Watch Video Solution

70. Plants with ovaries having only one or a few ovules , are generally pollinated by

A. Bees

B. Butterflies

C. Birds

D. Wind

Answer: D



Watch Video Solution

71. The coconut water and the edible part of coconut are equivalent to

A. Endosperm

B. Endocarp

C. Mesocarp

D. Embryo

Answer: A



Watch Video Solution

72. Even in absence of pollinating agents seed setting is assured in

A. Commellina

B. Zostera

C. Salvia

D. Fig

Answer: A



Watch Video Solution

73. Find out correct order of vegetative propagules of plants like Potato , Ginger , Agave , Bryophyllum and Water Hyacinth

A. Offset , bulbil , leaf bud , rhizome and eyes

B. Leaf bud , bulbil , offset , rhizome and eyes

C. Eyes , rhizome , bulbil , leaf buds and
offset

D. Rhizome , bulbil , leaf bud , eyes and
offset

Answer: C



Watch Video Solution

74. Meiosis occur in

A. Megaspore

B. Meiocyte

C. Conidia

D. Gemmule

Answer: B



Watch Video Solution

75. Megaspores are produced from megaspore mother cells after

A. Formation of thick walls

B. Differentiation

C. Meiotic division

D. Mitotic division

Answer: C



Watch Video Solution

76. Syngamy can occur outside the body of organisms in

A. Algae

B. Ferns

C. Fungi

D. Mosses

Answer: A



Watch Video Solution

77. Embryo sac is to ovule _____ is to another .

A. Stamen

B. Filament

C. Pollen grain

D. Androecium

Answer: C



Watch Video Solution

78. Process of sexual reproduction which involves meiosis and syngamy is

A. Apomixis

B. Amphimixis

C. Agamospermy

D. Diplospory

Answer: B



Watch Video Solution

79. Megasporangium is equivalent to

A. Fruit

B. Nucellus

C. Ovule

D. Embryo sac

Answer: C



Watch Video Solution

80. Perisperm differs from endosperm in

A. Having no reserve food

B. Being a diploid tissue

C. Its formation by fusion of secondary nucleus with several sperms

D. Being a haploid tissue

Answer: B



Watch Video Solution

81. Seed coat is not thin , membranous in :

A. Coconut

B. Groundnut

C. Gram

D. Maize

Answer: A



Watch Video Solution

82. Product of sexual reproduction generally generates

A. Prolonged dormancy

B. New genetic combination leading to variation

C. Large biomass

D. Longer viability of seeds

Answer: B



Watch Video Solution

83. Advantage of cleistogamy is :

A. More vigorous offspring

B. No dependence on pollinators

C. Vivipary

D. Higher genetic variability

Answer: B



Watch Video Solution

84. Which one of the statements is correct ?

A. Sporogenous tissue is haploid

B. Endothecium produces the microspores

C. Tapetum nourishes the developing pollen

D. Hard outer layer of pollen is called intine

Answer: C



Watch Video Solution

85. Gametogenesis refers to the process of

A. Fusion of two gametes

B. Fusion of two gametangia

C. Formation of two types of gametes

D. Formation of male gametes only

Answer: C



Watch Video Solution

86. Zygote is formed by the process of

A. Isogamy

B. Anisogamy

C. Oogamy

D. Syngamy

Answer: D



Watch Video Solution

87. 87. Which one of the following shows isogamy with non flagellated gametes :

A. Ectocarpus

B. Ulothrix

C. Spirogyra

D. Sargassum

Answer: C



Watch Video Solution

88. Geitonogamy involves :

A. Fertilization of a flower by the pollen
from a flower of another plant belonging
to a distant population

B. Fertilization of a flower by the pollen from another flower of the same plant

C. Fertilization of a flower by the pollen from the same flower

D. Fertilization of a flower by the pollen from a flower of another plant in the same population

Answer: B



Watch Video Solution

89. Function of filiform apparatus is to

- A. Guide the entry of pollen tube
- B. Recognize the suitable pollen at stigma
- C. Stimulate division of generative cell
- D. Produce nectar

Answer: D



Watch Video Solution

90. Which one of the following statements is correct ?

A. A sterile pistil is called a staminode

B. The seed in grasses is not endospermic

C. Mango is a parthenocarpic fruit

D. A proteinaceous aleurone layer is present in maize grain

Answer: D



Watch Video Solution

91. To obtain virus - free healthy plants from a diseased one by tissue culture technique , which part / parts of the diseased plant will be taken ?

A. Epidermis only

B. Apical meristem only

C. Palisade parenchyma

D. Both apical and axillary meristems

Answer: D



[Watch Video Solution](#)

92. Non - albuminous seed is produced in

A. Pea

B. Maize

C. Castor

D. Wheat

Answer: A



[Watch Video Solution](#)

93. Pollen tablets are available in the market for :

- A. Ex situ conservation
- B. In vitro fertilization
- C. Breeding programmes
- D. Supplementing food

Answer: D



Watch Video Solution

94. Male gametophyte with least number of cells is present in :

A. Pinus

B. Pteris

C. Funaria

D. Liliium

Answer: D



Watch Video Solution

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

A. Transfer of pollen grains

B. Embryo development

C. Formation of flower

D. Formation of pollen grains

Answer: B



Watch Video Solution

96. The number of chromosomes in the shoot tip cells of a maize plant is 20. The number of chromosomes in the microspore mother cells of the same plant shall be :

A. 20

B. 10

C. 40

D. 15

Answer: A



Watch Video Solution

97. Fill In The blank : The most common ovule in angiosperm is _____



[Watch Video Solution](#)

98. Fill In The blank : The nutritive anther wall gives food for advelopment of Pollen grain is known as _____



[Watch Video Solution](#)

99. Fill In The blank : To study about pollen grain is known as _____



Watch Video Solution

100. Fill In The blank : The most common type of endosperm in angiosperm is _____



Watch Video Solution

101. Fill In The blank : Pollination by wind is known as _____



[Watch Video Solution](#)

102. Fill In The blank : Development of fruit without fertilization is known as _____



[Watch Video Solution](#)

103. Fill In The blank : The most contrivances for cross pollination is _____



[Watch Video Solution](#)

104. Fill In The blank : The close end of ovule is



Watch Video Solution

105. Fill In The blank : The common method of entry of pollen tube towards ovule is



Watch Video Solution

106. Fill In The blank : Remainant of nucellus is known as _____



Watch Video Solution

107. Give an account process of double fertilization of angiosperms.



Watch Video Solution

108. Discuss Mendel's monohybrid cross with checker board.



Watch Video Solution

109. Discuss Mendel's dihybrid cross with checker board.



Watch Video Solution

110. What do you mean by back cross and test cross? Explain test cross through an example.



Watch Video Solution

111. Describe the initiation step of translation in prokaryotes.



Watch Video Solution

112. Describe the chain elongation process of translation of prokaryotes.



Watch Video Solution

113. Give an account of development of female gametophyte of angiosperms.



Watch Video Solution

114. State and explain Mendel's laws of inheritance.



Watch Video Solution

115. Describe the process of DNA replication.



Watch Video Solution

116. Describe the structure of DNA molecule as per the model proposed by Watson and Crick.



[Watch Video Solution](#)

117. Give a structure of a typical pollen grain and its pre- and post-pollination changes.



[Watch Video Solution](#)

118. Distinguish between: Microsporogenesis and megasporogenesis



[Watch Video Solution](#)

119. Distinguish between: Chasmogamous flower and cleistogamous flower.



Watch Video Solution

120. Distinguish between: Selfpollination and cross pollination



Watch Video Solution

121. Distinguish between: Geitonogamy and xenogamy



Watch Video Solution

122. Distinguish between: Wind pollinated flowers and insect pollinated flowers



Watch Video Solution

123. Distinguish between: Dichogamy and herkogamy



Watch Video Solution

124. Distinguish between: Syngamy and triple fusion



Watch Video Solution

125. Distinguish between: Fertilization and double fertilization



Watch Video Solution

126. Distinguish between: Embryo and endoperm



Watch Video Solution

127. Distinguish between: Integument and testa



Watch Video Solution

128. Distinguish between: Coleoptile and coleorhiza



Watch Video Solution

129. Distinguish between: Hypocotyl and epicotyl



Watch Video Solution

130. Distinguish between: Perisperm and endosperm



Watch Video Solution

131. Distinguish between: Parthenocarpy and parthenogenesis



Watch Video Solution