



BIOLOGY

BOOKS - S DINESH & CO BIOLOGY (HINGLISH)

NO IDEA



1. Which is agamospermy

A. Development of embryo without gametic

union

B. A type of sexual reproduction in which

there is no differenticaion of male and female gametes.

C. Development of new individual from the

union of two sperms

D. Development of new individual directly

without forming an embryo.

Answer: A



2. Adventitive polyembryony/from nucellar

cells occurs in

A. Poa

B. Brassica

C. Allium

D. Citrus.

Answer: D





3. Asexual reproduction is related to

A. Amphimixis

- B. Agamospermy
- C. Vegetative propagation
- D. Both B and C

Answer: D

4. Agamospermy includes

A. Adventitive polyembryony

B. Recurrent apomixis

C. Nonrecurrent apomixis

D. All the above

Answer: D

5. Agamospermy produces new plant through

the formation of

A. Bulbil

B. Asexual embryo

C. Gemma

D. Parthenocarpy

Answer: B

6. In nonrecurrent agamospermy the embryo

is

A. Nucellar

B. Integumental

C. Haploid

D. Diploid

Answer: C

7. Apospory is direct formation of

A. Gametophyte from sporophyte

- B. Gametophyte from Gametophyte
- C. Sporophyte from gametophyte
- D. Sporophyte

Answer: A

8. Diplospory is development of embryo from

A. Nucellus

B. Integument

C. Megaspore mother cell

D. Megaspore

Answer: C

9. Union of two gametes of one sex is known

as

A. Apogamy

B. Parthenoapogamy

C. Parthenogamy

D. Parthenogenesis.

Answer: C

10. Apogamy is direct formation of

A. Sporophyte from sporophyte

B. Sporophyte from gametophyte

C. Gametophyte from sporophyte

D. Gametophyte from gametophyte

Answer: B



11. Parthenoapogamy involves

A. Fusion of two gametic nuclei

B. Fusion of three gametes

C. Fusion of two vegetative nuclei

D. Development of new plant from a single

gametophytic cell.

Answer: C

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12. Adventive polyembryony is an example of

- A. Vegatative propagation
- B. Amphimixis
- C. Agamospermy
- D. Parthenogamy.

Answer: C



13. Diplospory is direct (nonmeiotic) development of diploid embryo sac from

A. Diploid megaspore mother cell

B. Diploid integument call

C. Diploid nucellar cell

D. All the above

Answer: A

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14. Which is agamospermy

A. Layering

B. Grafting

C. Adventivitive embroyony

D. All the above

Answer: C

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15. The phenomenon of embryo directly developing form a cell of embryo sac other then egg is

- A. Apospory
- B. Diplosory
- C. Apogamy
- D. Parthenogenesis.

Answer: C

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16. Pollination is

A. Shedding of pollen from anthers

B. Similar to fertillization of animals

C. Transfers of pollen from anthers to

stigmas

D. Transfers of pollen from anthers to

ovules.

Answer: C

17. Self pollination is transfer of pollen form anther to the stigma of

A. same flower

B. Same or different flower of the same

plant

C. same or gentically similar flower of the

same or other plant

D. Different flowers of the same plant.







18. The condition of maturation of anthers and

stigmas of the same flower simultaneously is

A. Xenogamy

B. Geitonogamy

C. Allogamy

D. Homogamy.

Answer: D

19. Passage of pollen grains fromanthers of one flowers to stigmas of other flowers is

A. Allogamy

B. Chasmogamy

C. Xenogamy

D. Geitonogamy

Answer: A

20. Xenogamy is

A. Autogamy

B. Cross Pollination

C. Self pollination

D. Cleistogamy

Answer: B

21. Pollination occurring in closed flowers is



22. In Wheat, pollination is

A. Wind pollination

- **B.** Insect pollination
- C. Bud pollination
- D. Herkogamy.





23. A mechanism to prevent cross pollination

is

A. Protogyny

B. Protandry

C. Heterostyly

D. Cleistogamy.

Answer: D



24. Repeated self pollination over the generations produces

A. New varieties

- B. Elimination of weak traits
- C. Better progeny
- D. Weak progeny.

Answer: D



25. Transfer of pollen from anthers of one flower to the stigma of another flower of the same plant is

- A. Geitonogamy
- B. Xenogamy
- C. Dichogamy
- D. Dicliny.





26. Cleistogamous flowers are

- A. Wind pollinated
- B. Self pollinated
- C. Cross pollinated
- D. Insect pollinated.

Answer: B



27. Chasmogamy is pollination in

A. Bud condition

B. Closed flowers

C. Open flowers

D. Unrelated flowers.

Answer: C

28. During self pollination of Mirabilis

A. Flowers are closed

B. Flowers are open and growing style

brings the stigma in contactt with

anthers

C. Filaments brings anthers in contact with

stigma

D. Style bends to brings stigma in contact with anthers.





29. In Potato, self pollination is performed in

A. Bud condition

- B. Cleistogamous condition
- C. Bending of filaments to bring anthers in

contact with stigma

D. Style bends to brings stigma in contact

with anthers.

Answer: D

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30. In Catharanthus (= Vinca) anthers occur near the mouth of corolla tube. Self pollination is performed by

A. Growth of style

B. Bending of filaments

C. Shedding of pollen and falling on the

low lying stigma

D. Entry of insect.

Answer: A

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31. A characteristic of wind pollinated flowers

A. Feathery exserted stigma

- B. Feathery inserted stigma
- C. Narrow exserted stigma
- D. Narrow inserted stigma.

Answer: A

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32. Wind pollinated flowers have

A. Small petals and sticky pollen

- B. No petals and light pollen
- C. Coloured and large petals with large

pollen

D. small petals and heavy pollen.

Answer: B

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33. Maize is

A. Cleistogamous

- B. Anemophilous
- C. Entomophilous
- D. Hydrophilous.

Answer: B

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34. Exserted versatile anthers are found in

A. Autogamous flowers

B. Entomophilous flowers

C. Anemophilous flowers

D. Zoophilous flowers.

Answer: C



35. Hay fever in due to

A. Insect transmitted pollen

- B. Water borne pollen and pathogens
- C. Wind borne pollen

D. Virus infected pollen.

Answer: C

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36. A tree like Willow or Mulberry has hanging male catkins, Pollination can be through

A. Geitonogamy

B. Entomophily

C. Zoophily
D. Anemophily.

Answer: D

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37. Pollen of anemophilous plants are

A. Large and heavy

- B. Small and sticky
- C. Small, dry and unwettable

D. Large, light and hygroscopic.





38. Pollination carried out through water is

A. Anemochory

- B. Hydrophily
- C. Hydrochory
- D. Anemophily.

Answer: B



39. Pollination by water occurs in

- A. Ceratophyllum
- B. Zostera
- C. Lemna
- D. All the above.

Answer: D



40. In Vallisneria, pollination is

A. Hydrophilous

B. Cleistogamous

C. Anemophilous

D. Entomophilous.

Answer: A

41. Pollination in Vallisneria is

A. Epihydrophilous

B. Hypohydrophilous

C. Subhydrophilous

D. Both B and C

Answer: A

42. Plant of Vallisneria is

A. Monoecious

B. Dioecious

C. Polygamous

D. intersexual.

Answer: B

43. IN Tape Grass (= Vallisneria)

A. Both male and female flowers break from the plant and float on the surface of water

B. Only the female flowers break from the plant while the male flowers are brought to the surface by long stalksC. only the male flowes break from the plant and rise to the surface while the

female flowers are brought to the

surface by long pedicels

D. Any of the two types of flowers can

break.

Answer: C

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44. The male flowers of Vallisneria float on the

surface of water with the help of

A. Boat - like structure formed by two

perianth lobes

B. Boat - like structure formed by three

perianth lobes

C. Boat formed by monotepalous perianth

D. Two tepals forming boat - shaped float

while the third smaller one functions as

a rudder.

Answer: D

45. Colour of night blooming flowers is usually

A. Violet to purple

B. Red

C. Yellow

D. Whitish.

Answer: D

46. Night blooming flowers attract pollinating

insects with the help of

A. Aroma

B. Nectar

C. Edible pollen

D. All the above.

Answer: A

47. Rose flower does not contain nectar. It provides the visiting insect with

A. Mineral rich water

B. shelter

C. Edible pollen

D. Edible petals.

Answer: C

48. Brightly coloured scented flowers generally

show

A. Entomophliy

B. Malacophily

C. Myrmecophily

D. Chiropterophily.

Answer: A

49. Charactersitc of entomophilous plants is

A. long styles

B. exserted stamens

C. long stigma

D. Pollenkitt.

Answer: D

50. Mimicry like condition is helpful in the pollination of

A. Blastophaga

B. Ophrys

C. Yucca

D. Magnolia.

Answer: B

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51. Moth Pronuba (=Tegaticula) passes its larval stage in plant pollinated by it. The plant is

A. Ficus cairica

B. Yucca

C. Tagetes

D. Cosmos.

Answer: B

52. Hovering birds pollinate

A. Bignonia

B. Peepal

C. Magnolia

D. Bougainvillea.

Answer: A



53. Which of the following is ornithophilous

A. Erythrina

- B. Agave
- C. Grevillea
- D. All the above.

Answer: D

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54. Adansonia (Boabab Tree) is

A. Malacophilous

B. Ornithophilous

- C. Chiropterophilous
- D. Anemophilous.

Answer: C

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55. Pollination with the help of snails is called

A. Myrmecophily

B. Malacophily

C. Lepidopterophily

D. Entomophily.

Answer: B



56. Faster and batter growth of pollen from other plants then the pollen from the same plant is

A. Self incompatibility

B. Dichogamy

C. Monocliny

D. Prepotency.

Answer: D

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57. Lever or turn - pipe mechanism of

pollination occurs in

A. Solvia

B. Antirrhinum

C. Phlox

D. Gloriosa.

Answer: A

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58. Translator is employed for pollination in

A. Erythrina

B. calotropis

C. Jasminum

D. Cestrum.

Answer: B



59. In Primula, cross pollination is favoured by

A. Herkogamy

B. Dichogamy

C. Heterostyly

D. Dicliny.

Answer: C

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60. In pin - eyed flowers of Primula

- A. Stamens are long
- B. Style is long

C. There are two series of long staments

and one short style

D. There are two series of long styles and

one short stamens.

Answer: B

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61. Cross pollination produces

A. Similar offspring

B. Weaker progeny

C. Better progeny

D. Male progeny.

Answer: C

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62. Allogamy is favoured by

A. Homogamy

B. Cleistogamy

C. Monocliny

D. Dicliny.





63. Pollination performed by bate is

A. Myrmecophily

- B. Entomophliy
- C. Ornithophily
- D. Chiropterophily.

Answer: D



64. In Salvia, pollination occurs through the

agency of

A. insects

B. bats

C. Ants

D. Snails.

Answer: A





65. Yacca is pollinated by

A. Pronuba Moth

B. Bumble Bee

C. Honey Bee

D. Butterfly.

Answer: A

66. The condition of maturation of stigma before anthers of the same flower is

A. Protandry

B. Herkogamy

C. Protogyny

D. Prepotency.

Answer: C

67. The phenomenon of maturation of anthers

earlier then the stigma of the same flower is

A. Dicilny

B. Protandry

C. Herkogamy

D. Heterostyly.

Answer: B

68. Pollen grains insect pollinated flowers are

A. Smooth and sticky

B. Smooth and rough

C. Rough and dry

D. Rough and sticky.

Answer: D

69. The phenomenon of floral parts acting as a

barrier to self pollination is

A. Heterostyly

B. Dichogamy

C. Dicliny

D. Herkogamy.

Answer: D

70. Name the phenomenon of two flowers, one having long stamens and short styles, and other having short stamens and long style

A. Allogamous device

B. Heterostyly

C. Dicliny

D. Herkogamy.

Answer: B

71. Pollen grains do not germinate on the stigma of the same flower. The Phenomenon is

A. Prepotency

- B. Self sterility
- C. Dicliny
- D. Dichogamy.

Answer: B

72. Entomophily is pollination by

A. Insects

B. Bats

C. Birds

D. Ants.

Answer: A


73. Pollination mechanism of Calotropis is

A. Lever mechanism

B. Turn- pipe mechanism

C. Translator mechanism

D. Siphon mechanism.

Answer: C

74. Barrier to avoid self pollination between

stamens and pistils is

A. Heterostyly

B. Herkogamy

C. Dichogamy

D. Dicliny.

Answer: B

75. Pollinia are sacs having

A. Anther lobes

B. Pollen grains

C. Glands for secreting pollenkitt.

D. Air for making the pollen grains light.

Answer: B



76. Embryology is



Answer: D

77. Embryogeny is branchof embryology dealing with

A. Nutrition of embryo

B. Development of embryo

C. Formation of embryo

D. Conversion of embryo to adult plant

Answer: B

78. Who is author of book "Inroduction to the

Embryology" of Angiosperms

A. P. Maheshwari

B. S.R Kashyap

C. T.S. Sadasivan

D. K.C. Mehta.

Answer: A

79. In embryophystes, sporogensis involves

A. Microsporogenesis and megasporo-

genesis

B. Formation of diploid spores

C. Formation of haploid spores

D. Formation of mitospores.

Answer: C

80. Microsoporogenesis occurs

- A. On inrolled margins of leaves
- B. inside ovule
- C. inside anther
- D. in essential floral organs.

Answer: C



81. Development of microsporangia in anther is from a A. A single cell-eusporangiate B. A single cell-leptosporangiate C. Group of hypodermal cellleptosporangiate of hypodermal cells-D. Group eusporangiate.







- 82. Anther is generally
 - A. Tetrasporangiate
 - B. Bisporangiate
 - C. Trisporangiate
 - D. Monosporangiate.

Answer: A

83. Microsporangial initial of an anther is

A. Tapetum

- B. Archesporium
- C. Endosporium
- D. Exosporium

Answer: B



84. Primary parietal cells of a young pollen sac

form

A. Sporocytes

B. Epidermis

C. Microsporangial wall inner to epidermis

D. Microsporangial wall including the

epidermis.

Answer: C

85. Wall of a pollen sac consists of

A. Endothecium and tapetum

B. tapetum and middle layers

C. Endothecium, middle layers and tapetum

D. Epidermis, endothecium, middle layers

and tapetum.

Answer: C

86. Which one of the following is fibrous layer

A. Middle layer

- B. Endothecium
- C. Tapetum
- D. Endostomium.

Answer: B



87. In the anther, stomium occurs

A. At the tip

B. In groove of each anther lobe

C. At the base of anther

D. Transversely on the anther.

Answer: B

88. Endothecium takes part in

A. Dehiscence of anther

B. Nourishment of microspore mother cells

C. Nourishment of pollen grains

D. Synthesis of pollen grain wall.

Answer: A

89. Middle layers of the microsporangial wall

A. Shrivel at maturity of anther

- B. Persist but remain thin-walled
- C. Degenerate before maturity
- D. Persist and become thickened.

Answer: C

90. Tapetum present in the microsporangial wall occurs between

A. Epidermis and endothecium

B. Indothecium and middle layers

C. Epidermis and middle layers

D. Middle layers and sporogenous tissue.

Answer: D

91. Tapetal cells show

A. Meiosis

B. Mitosis

C. Endomitosis

D. Endomitosis and endopolyploidy.

Answer: D



92. Tapetal cells are

A. Uninucleate

- B. Binucleate
- C. Multinucleate
- D. Enucleate.

Answer: C

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93. Tapetal cells are

A. Glandular or amoeboid

B. Glandular

C. Invasive

D. Ephemeral.

Answer: A

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94. Tapetal cells are usually:

A. Haploid

B. Polyploid

C. Diploid

D. Triploid

Answer: B

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95. Role of tapetum was discovered by

A. Flemming

B. Ubisch

C. Strasburger

D. Nawaschin.

Answer: B

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96. Tapetum is

- A. Parietal in origin
- B. Inner most wall layer of pollen sac
- C. Nutritive and provides wall material to

pollen grains

D. All of above.

Answer: D

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97. Ubisch bodies are produced by

A. Middle layer

- B. Tapetum cells
- C. Pollen mother cells

D. Endothecium.





98. Ubisch bodies take part in development of

A. Pollen grains

- B. Syncytium
- C. Microgametophyte
- D. Microsporangium.

Answer: A



99. In dicots the most common pollen tetrad is

A. Isobilateral

B. Tetrahedral

C. Linear

D. Decussate.

Answer: B

100. In monocots,the most common pollen tetrad is

A. Isobilateral

B. Tetrahedral

C. Linear

D. T- shaped or decussate.

Answer: A

101. Pollen tatrad of Aristolochia elegans is

A. Decussate or T- shaped

B. Linear or isobilateral

C. Tetrahedral

D. Any of the above.

Answer: D

102. Compound pollen grains occur in

A. Calotropis

B. Orchids

C. Juncus or Cryptostegia

D. Asclepias

Answer: C

103. Pollinia occur in

A. Milkweeds and orchids

B. China Rose

C. Radish

D. Sunflower.

Answer: A

104. A pollinium consists of

A. A bag of pollen grains formed in a

microsporangium

B. A cluster of pollen grains belonging to a

chamber of microsporangium

C. Group of four pollen grains derived from

a single mother cell

D. Two pollen tetrads attached by small stalks.



C. Two pollinia, two caudicles and one

corpusculum

D. two pollinia and one corpusculum.

Answer: C

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106. The most common type of tapetum is

A. Secretary or glandular type

B. Amoeboid or invasive type

C. Nonglandular and noninvasive type

D. Resupinate type

Answer: B

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107. In amoeboid type of tatetum

A. The cells remain in situ

B. The cells secrete chemicals for

degeneration of middle layers

C. The cells pass in between the middle

layers

D. The cells form plasmodium that passes

in between pollen grains mother cells.

Answer: D

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108. In anther, meiosis occur in

A. Tapetal cells

- B. Endothecial cells
- C. Pollen mother cells
- D. Stomium cells.

Answer: C

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109. How many pollen mother cells should undergo meiotic division to produce 64 pollen grains?
A. 16

B. 32

C. 64

D. 80

Answer: A

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110. The function of anther is

A. Produce Ubisch bodies

- B. Produce pollen grains
- C. Store and protect pollen grains

D. All the above.

Answer: B

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111. Wall of a mature pollen grain consists of

A. Ektexine and endexine

B. Tapetum and endothecium

C. Exine and intine

D. Foot and baculate layer.

Answer: C



112. Intine of pollen grain is made of

A. Callose

B. Pecto - cellulose

C. Cellulose

D. Fat-like sporopollenin.

Answer: B

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113. Exine of pollen grain is formed of

A. Callose

B. Pecto - cellulose

C. Ligno - cellulose

D. Sporopollenin.

Answer: D



114. Abundant occurrence of fossilised pollen grains is due to resistant

A. Lignocellulose

- B. Sporopollenin
- C. Pectocellulose
- D. Pectolignin.





C. Protein

D. Fatty substance.

Answer: D



116. Exine is differentiated into

A. Foot layer and beculate layer

B. Foot layer, beculate layer, tectum and

endexine

- C. Ektexine and endexine
- D. Both B and C







117. Sculpuring present on the surface of pollen grain is due to

A. Foot layer

B. Tectum

C. Tectum and beculate layer.

D. Foot layer and baculate layer.

Answer: C

118. Germ pore/germinal furrow present on the surface of pollen grain represents

A. Area where exine is thin or absent

B. Specialised thickening of exine

C. Specialised thickening of intine

D. Area where tectum is absent.

Answer: A

119. Monocot pollen grains are generally

A. Monocolpate

B. Bicolpate

C. Tricolpate

D. Multicolpate.

Answer: A

120. Dicot pollen grains are commonly

A. Monocolpate

B. Bicolpate

C. Tricolpate

D. Multicolpate.

Answer: C

121. A yellow sticky substance present on the

surface of entomophilous pollen grains is

A. Sporopollenin

B. Pollinium

C. Lignosuberin

D. Pollenkitt.

Answer: D

122. Pollen grain is liberated in

A. One celled state

B. Two celled state

C. Three called state

D. Two or three celled state.

Answer: D

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123. Pollen grain represents

A. Spore

B. Zygote

C. Immature male gametophyte

D. Male gamete.

Answer: C

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124. Innermost layer of pollen sac which functions as a nutritive layer is

A. Endothecium

B. Tapetum

C. Endothelium

D. Intine.

Answer: B

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125. Pollen tube is covered by a membrane

made of

- A. Pectocellulose
- B. Sporopollenin
- C. Cellulose
- D. Lignocellulose.

Answer: A

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126. Siphonogamy is

A. Fertilization assisted through pollen

tube

B. Fusion between dissimilar gametes both

of which are nonmotile

C. Fertilization of ovule thorugh funcile

D. Fertilization with the help of siphon

system.

Answer: A

127. Which one forms the pollen tube

A. Prothallia cell

B. Vegatative cell

C. Generative cell

D. Stalk cell.

Answer: B



128. Number of prothallial cells presnet in the

male gametophyte of angiosperms is

A. one

B. Two

C. many

D. zero.

Answer: D

129. Which one forms the male gametes in

angisoperms

A. Antherdial cell

B. Body cell

C. Generative cell

D. Tube cell.

Answer: C

130. Polysiphonous condition is occasionally found in

A. Ranunculaceae

B. Malvaceae and Cucurbitaceae

C. Ranunculaceae and Brassicaceae

D. Poaceae and Palmae.

Answer: B

131. Growth of pollen tube is

A. Apical

B. Basal

C. Intercalary

D. Diffused.

Answer: A



132. In a mautre angiospermic male gametophyte, the male gametes are present in the

- A. Pollen grain part
- B. Base of pollen tube
- C. All over inside the male gametophyte
- D. Tip of the pollen tube.

Answer: D

133. Number of nuclei present in the mature

male gametophyte of angisoperms is

A. one

B. two

C. Three

D. Many.

Answer: C

134. Pollen tube was discovered by

A. Camerarius

B. Amici

C. Hofmeister

D. Nemec.

Answer: B



135. What is true of wall of pollen sac

A. Endothecium occure inner to tapetum B. Tapetum lies below the endothecium C. Middle layers occure below the epidermis and outside the tapetum D. Middle layers lie between endothecium and tapetum.

Answer: D

136. Tapetum is

A. Inner nutritive layer that persists at maturity

- B. Inner nutritive layer that degenerates at maturity
- C. Outer nutritive layer that degenerates at

maturity

D. Outer nutritive layer that persists at

maturity.



D. Endothecium degenerates.

Answer: C

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138. Fibrous thickening of endothecium are in the from of

A. Annuli

- B. Tangential strips
- C. Spiral bands

D. Spiral radial bands.

Answer: D

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139. What is wrong

A. Obturator occurs in the ovary

B. Grass pollen grains are monosiphonous

C. Tip of pollen tube contains dense

cytoplasm

D. Tip of the pollen tube contains callose

plugs.

Answer: D



140. Megasporangium is equivalent to

A. Ovule

B. Embryo sac

C. Ovary

D. Egg apparatus.

Answer: A

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141. Ovule is

- A. Megasporangium
- B. Megasporophy11

C. Integumented megasporangium

D. Rolled megasporophy11.





142. Which condition is more advanced

A. Bitegmic

- B. Unitegmic
- C. Tritegmic
- D. Ategmic.

Answer: B



143. Ategmic ovule is found in

A. sunflower

- B. Chenopodium
- C. Olax
- D. Junglans.

Answer: C

144. Ovules are attached to a paranchymatous cushion called

A. Nucellus

B. Obturator

C. Conducting tissue

D. Placenta.

Answer: D

145. The stalk of ovule is

A. Pedicel

B. Funiculus

C. Petiolule

D. Rechiole.

Answer: B


146. A mass of perenchymatous tissue forming

the bulk of ovule is

A. Obturator

B. Female gametophtye

C. Nucellus

D. Endosperm.

Answer: C

147. Ovule is tritegumic in

A. Juglans

B. Casuarina

C. Opunita

D. Asphodelus.

Answer: D

148. A primitive massive nucellus occurs in some ovules. The condition is called

A. Crassinucellate

B. Tenuinucellate

C. Resupinate ovule

D. Protonucellate.

Answer: A

149. The tenuincellate ovule has

A. Larege amount of nucellus

- B. Small amount of nucellus
- C. Micropylar nucellus
- D. Chalazal nucellus.

Answer: B



150. The point at which funiculus touches the

ovule is

A. Chalaza

B. Hilum

C. Raphe

D. Endothelium.

Answer: B

151. Chalaza is

A. Ridge formed by fusion of funicle with

the body of ovule

- B. Space between integument and nucellus
- C. Place of origin of integuments
- D. Place where nucellus communicates with

cavity of ovary.

Answer: C

152. Raphe is

A. Ridge formed by union of funicle with

body of ovule

B. Distance between chalaza and micropyle

C. Distance between hilum and micropyle

D. Area between hilum and chalaza.

Answer: A

153. A noncellular layer present on the outside

of nucellus is

A. Integument

B. Exine

C. Endostomium

D. Cuticle.

Answer: D

154. A nutritive inner region of integument is

- A. Amphithecium
- B. Endothecium
- C. Endothelium
- D. Endostomium.

Answer: C



155. In ovule, archesporial cell differentitaes from nucellus

A. At chalzal region

B. Middle of nucellus

C. Laterally nea endothelium

D. Hypodermally in the micropylar region.

Answer: D

156. In ovule, meiosis occurs in

A. Archesporial cell

B. Megasporocyte

C. Parietal cell

D. None of the above

Answer: B

157. Meiosis of megaspore mother cell

generally produces

A. Linear tetrad

B. Tetrahedral tetrad

C. Decussate tetrad

D. Isobilateral tetrad.

Answer: A

158. Out of linear tetrad wich one is the

functional megaspore

A. Micropylar

B. Any of the middle ones

C. Chalazal

D. Any of the four.

Answer: C

159. Embryo sac represents

A. Megaspore

B. Megagametophyte

C. Megasporangium

D. Female gamete.

Answer: B

160. The most common type of embryo sac is

A. Polygonum type

B. Drusa type

C. Adoxa type

D. Fritillaria type.

Answer: A

161. Embryo sac is surrounded by a wall of

A. Specialized nucellar cells

B. Transfer cells

C. Membrane of megaspore

D. Membrane of egg.

Answer: C

162. The different cells of embryo sac are

A. Central cell and antipodal cells

B. Antipodal cells and egg apparatus

C. Central cell and egg apparatus

D. Egg apparatus, central cell and antipodal

cells.

Answer: D

163. Egg apparatus of angiosperm consists of

- A. Egg and antipodal cells
- B. Egg and central cell
- C. Egg and two synergids
- D. Egg and one synergid.

Answer: C



164. Lateral hooks occur in

- A. Oosphere or egg
- B. Synergids
- C. Central cell and egg apparatus
- D. Antipodal cells.

Answer: B

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165. Function of synergids is to

A. Attract pollen tube and bear its shock

B. Fuse with extra male gametes and form

endosperm

C. Produce additional embryo

D. Protect egg from pathogens.

Answer: A

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166. Central cell of embryo sac contains

A. A single haploid nucleus

B. Two haploid polar nucleus

C. One diploid fusion or secondary nucleus

D. Either B or C.

Answer: D

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167. Secondary nucleus formed by the fusion of

two polar nuclei is also called

A. Vegetative nucleus

- B. Definitive nucleus
- C. Generative nucleus
- D. Primary endosperm nucleus.

Answer: A

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168. A space occurs between nucellus and integument towards micropylar end. It is called

A. Endostome

- B. Endothecium
- C. Endothelium
- D. Endosperm.

Answer: A



169. In embryo sac, which one commonly develops haustoria

A. Synergids

- B. Antipodal cells and egg apparatus
- C. Oosphere
- D. Central cell.

Answer: B

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170. Orthotropous ovules occur in

A. Pisum sativum

B. Solanum nigrum

C. Polygonum

D. Helianthus.

Answer: C

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171. Ovule is straight with funiculus, embryo sac, chalaza and micropyle lying on one straight line. It is

- A. Anatropous
- **B.** Orthotropus
- C. Hemitropous
- D. Amphitropous.

Answer: B

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172. the most common type of ovule is

A. Orthotropous

B. Hemitropous

C. Antraopous

D. Campylotropous.

Answer: C

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173. Circinotropous ovule occurs in

A. Opuntia

B. Ranunculus

C. Polygonum

D. Cicer.

Answer: A



174. The characteristic of anatropous ovule is

A. Occurrence of hilum near the micropyle

B. Presence of raphe

C. Body of the ovule is inverted

D. All the above.

Answer: D

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175. In hemitropous ovule which one lies nearer

A. Hilum and micropyle

B. Chalaza and micropyle

C. Hilum and chalaza

D. None, hilum is equidistant to micropyle

and chalaza.

Answer: D

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176. Body of the ovule is stright but at right

angles to the funicle. It is

A. Orthotropous

B. Campylotropous

C. Hemitropous

D. Amphitropous.

Answer: C

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177. What is the characterisic of amphhitropous ovule

A. Body is straight but the embryo sac is

curved

B. Body of ovule as well as embryo sac are

curved

C. Body of ovule is curved but the embryo

sac is straight

D. The funiculus is coiled over the body of

ovule.

Answer: B

178. Name the type of ovule in which hilum, chalaa and micropyle come to lie nearby

A. Campylotropous

B. Amphitropous

C. Both A and B

D. Hemitropous.

Answer: C

179. the success of seed plants on land is mainly due to

A. Presence of conducting tissue

- B. Development of secondary growth
- C. Evolution of siphonogamy
- D. All the above.

Answer: D

180. Which one guides the pollen tube in the style

A. Secretion of synergids

B. Secretion of oosphere

C. Obturator

D. Conducting tissue.

Answer: A

181. The device that guides the pollen tube in

the cavity of ovary is

A. Obturator occurs in the ovary

- B. Transmitting tissue
- C. Placenta
- D. Synergids.

Answer: A


182. Which is more common

A. Mesogamy

B. Porogamy

C. Chalazogamy

D. Aporogamy.

Answer: B

183. In porogamy, the pollen tube enters the ovule through

A. Funicle

B. Chalaza and micropyle

C. Micropyle

D. Integuments.

Answer: C

184. The phenomenon of pollen tube entering the ovule laterally through integuments is called

A. Mesogamy

B. Aprogamy

C. Chalazogamy

D. Vegetative fertilization.

Answer: A

185. Chalazogamy occurs in

A. Cucurbita

B. Lily

C. Populus

D. Casuarina.

Answer: D



186. A pollen the enters the ovule through chalaza lying opposite the micropyle. It will enter the embryo sac through

A. Chalazal end

B. Laterally

C. Antipodal haustorium

D. Micropylar end.

Answer: D

187. Embryo sac of flowering plants develops

from

A. Zygote

B. Megaspore

C. Nucellus

D. Embryo.

Answer: B

188. Which one is the female gamete in

embryo sac

A. Synergid

B. Antipodal cells

C. Oosphere

D. Central cell and egg apparatus

Answer: D

189. Who discovered fertilization in ovule

A. Amici

B. Nawaschin

C. Hofmeister

D. Strasburger.

Answer: D

190. Genetic fertilization involves the fusion of

male gamete with

A. A synergid

B. Oosphere

C. Central cell and egg apparatus

D. Antipodal cell.

Answer: B

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191. Vegetative fertilization involves fusion of

A. Two polor nuclei

- B. A male gamete and a synergid
- C. A male gamete and antipodal cell
- D. Nucleus of a male gamete and secondary

nucleus.

Answer: D

192. Vegetative nucleus occurs in

- A. All flowering plants
- B. All seed plants
- C. All vascular plants
- D. All embryophytes.

Answer: A



193. What is the other name of vegetative fertilization

A. Double fertilization

B. Somatogamy

C. Triple fusion

D. Central fertilization.

Answer: C

194. Triple fusion was studied for the first time

by

A. Hofmeister

B. Nemec

C. Strasburger

D. Nawaschin.

Answer: D

195. Syngamy is

A. Fusion of two cells

B. Fusion of two nuclei

C. Fusion of two gametes

D. Fusion of two gametic nuclei.

Answer: C

196. Karyogamy is

A. Fusion of two germ cells

B. Fusion of two gametic nuclei

C. Fusion of a somaic cell and a

reproductive cell

D. Fusion of two somatic cells.

Answer: B

197. Double fertilization occurs in

A. Pinus

- B. Selaginella
- C. Funaria
- D. Dalbergia/Capsella.

Answer: D



198. Fertilization occurs inside

A. Embryo sac

- B. Ovule
- C. Ovary
- D. Carpel.

Answer: A



199. Which will form the embryo

A. Egg apparatus

B. Oosphere

C. Fertilised ovum

D. Fertilised synergid.

Answer: C

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200. Archesporium of ovule is

A. Single celled derived from nucellar

epidermis

| B. Single | celled | derived | from | nucellar |
|------------------|--------|---------|------|----------|
| hypodermis | | | | |
| C. Multicellular | | derived | from | nucellar |
| epidern | nis | | | |
| D. Multice | llular | derived | from | nucellar |
| hypode | rmis. | | | |
| | | | | |

Answer: B

201. Pollen grian germinates through

A. Micropyle

B. Intergument

C. Chalaza

D. Germ pore.

Answer: D

202. As compared to oosphere, the male

gamete of angiosperms is

A. Small

B. With thein cytoplasm

C. Nonvacuolate

D. All the above.

Answer: D

203. the structure which can show the effedt of traits brought by the male gamete immediately after its formation is

A. Embryo

B. Cotyledons

C. Endosperm

D. Plumule.

Answer: C

204. Which is not diploid

A. Nucellus

B. Integuments

C. Endosperm

D. Embryo.

Answer: C



205. Endosperm is generally

A. Diploid

B. Triploid

C. Haploid

D. Polyploid.

Answer: B

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206. Very hard endosperm is produced in

A. Areca

B. Phytelepas

C. Phoenix

D. All the above.

Answer: D

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207. Part of endosperm is liquid in

A. Cocos

B. Datura

C. Passiflora

D. Ricinus.

Answer: A



208. Free nuclear divisions are characteristic of

A. Cellular endosperm

B. Nuclear endosperm

C. Helobial endosperm

D. Both B and C.

Answer: D

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209. Growth of angiospermic embryo is

A. Endoscopic

B. Exoscopic

C. Endosporic

D. Exosporic.





210. Suspensor formed during embryogeny of Sagittaria is

- A. 6 10 celled
- B. 4 5 celled
- C. 2 3 celled
- D.1-celled.





211. In dicot embryo the radicle is formed by

- A. Epibasal tier of embryo
- B. Hypobasal tier of embryo
- C. Hypophysis of suspensor
- D. Terminal cell of suspensor.

Answer: C



212. In monocot embryo the radicle is produced by

A. terminal cell

B. Middle cell

C. Epiblast

D. Suspensor.

Answer: B





213. Epiblast present in certain monocot

embryo represents

A. Rudimentary leaves

B. Mesocotyl

C. Scutellum

D. Second cotyledon.

Answer: D

214. Development of embryo from a cell of embryo sac other than egg is an example of

A. Apospory

B. Apogamy

C. Adventitive embryogeny

D. Parthenogenesis.

Answer: C

215. Nucellar embryo is

- A. Amphimictic haploid
- B. Amphimictic diploid
- C. Apomictic haploid
- D. Apomictic diploid.

Answer: D



216. Development of sporophyte/embryo from

gametophytic tissue without fusion of gametes is

A. Apospory

B. Apogamy

C. Apomixis

D. Parthenogenesis.

Answer: B

217. Formation of gametophyte directly from

sporophyte without meiosis is.

A. Apospory

B. Apogamy

C. Parthenogenesis

D. Amphimixis.

Answer: A

218. Pollination is

A. Transfer of pollen from antherto stigma

B. Shedding of pollen grains from anthers

C. Dispersal of pollen

D. Fertilization of plants.

Answer: A



219. Anemophily is pollination through
A. Water

B. Air

C. Insects

D. Worms.

Answer: B

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220. Hydrophily occurs in

A. Nymphaea

B. Nelumbo

C. Eichhornia

D. Vallisneria/Zostera.

Answer: D

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221. Cleistogamy occurs in

A. Ficus

B. Commelina

C. Anthocephalus

D. Vallisneria.

Answer: B



222. Cleistogamous flowers are

- A. Male flowers which never open
- B. Famale flowers which never open
- C. Bisexual flowers which never open

D. Open bisexual flowers which perform self

pollination in bud condition.

Answer: C

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223. Maturation of stigma and anthers at

different times in te same flower is

A. Heterostyly

B. Dichogamy

C. Dicliny

D. Herkogamy.

Answer: B



224. Pollinia are found in the flowers o

A. Calotropis/Asclepiadaceae

B. Vinca (= Catharanthus)

C. Hibiscus/Malvaceae

D. Salvia/Labiatae.

Answer: A

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225. Nontransfer of pollen from anther to stigma of the same flower due to a mechanical barrier is

A. Dichogamy

B. Herkogamy

C. Heterostyly

D. Cleistogamy.

Answer: B



226. Pollination characteristically occurs in

A. Bryophytes and angiosperms

B. Pteridophytes and angiosperms

C. Angiosperms and gymnosperms

D. Angiosperms and fungi.

Answer: C

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227. Dichogamy is

A. Placement of anthers and stigmas at

different levels

B. Inability of the pollen to germinate on

the stigma of the same flower

C. Occurrence of barrier between anther

and stigma of the same flower

D. Maturation of anthers and stigmas at

different times.

Answer: D

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228. Maize shows

A. Cross pollination by rain

B. Cross pollination by wind

C. Cross pollination by insects

D. Self pollination.

Answer: B

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229. Bisexual flowers which never open,

demonstrate

A. Homogamous

B. Heterogamous

C. Dichogamous

D. Cleistogamous.

Answer: D

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230. Ornithophily is pollination by

A. Humans

B. Wind

C. Birds

D. Bat.

Answer: C



231. In sausage tree (Kigelia africana) the

pollination takes place by

A. Bats

B. Birds

C. Insects

D. Wind.

Answer: A



232. Number of nuclei taking part in double

fertilization is

A. 5

B. 3

C. 4

D. 2

Answer: A



233. Fusion of one male gamete with egg and

other of the same pollen tube with two polar nuclei is

A. Triple fusion

B. Vegetative fertilization

- C. Double fertilization
- D. Parthenogenesis.

Answer: C

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234. A natural sequence of developmental stages in the life cycle of an angiosperm is

A. Cleavage - Fertilization - Differentiation -

Fruit formation

B. Pollination - Fertilization - Seed

formation - Germination

C. Germination - Double fertilization -

Endosperm formation - Seed dispersal

D. Maturation - Mitosis - Differentiation -

Fertilization.

Answer: B

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235. Synergids of the polygonum type embryo

sac are

A. Hexaploid

B. Haploid

C. Diploid

D. Triploid.

Answer: B

236. Meiosis occurs in

A. Endosperm cells

B. Intercalary meristems

C. Apical meristems

D. Spore mother cells.

Answer: D

237. Sporogenesis is

A. Development and formation of spores

- **B.** Production of mitospores
- C. Production of meiospores
- D. Formation of zygote and embryo.

Answer: A

238. Palynology is connected with the study of

A. Pollen grains

B. Palms

C. Flowers

D. Fruits.

Answer: A

239. The phenomenon of pollen tube entering the ovule laterally through integuments is called

A. Isogamy

B. Porogamy

C. Mesogamy

D. Chalazogamy.

Answer: C

240. The function of innermost layer of pollen

sac, tapetum is

A. Protection

B. Nutrition

C. Dehiscence

D. Mechanical strength.

Answer: B

241. Number of prothallial cells presnet in the

male gametophyte of angiosperms is

A. Three

B. Two

C. One

D. Zero.

Answer: D

| 242. Male | gametophyte |
|------------------|-------------|
|------------------|-------------|

of

angiosperms/monocots is

A. Microsporangium

B. Nucellus

C. Microspore

D. Stamen.

Answer: C

243. Generative cell was destroyed by laser but a normal pollen tube was still formed because A. Vegetative cell is not damaged B. Contents of killed generative cell stimulate pollen growth C. Laser beam stimulates growth of pollen tube D. None of the above

Answer: A

244. How many pollen mother cells will form 1000 pollen grains

A. 200

B. 250

C. 300

D. 100

Answer: B



245. Which is correct

A. Gametes are invariably haploid

B. Spores are invariably haploid

C. Gametes are generally haploid

D. Both spores and gametes are invariably

haploid.

Answer: A

246. Anthesis refers to:

A. Growth of pollen tube inside the carpel

- B. Dehiscence of anthers
- C. Opening of floral bud
- D. Emergence of anthers.

Answer: C

247. Formation, growth and development of a new individual beginning from egg is known as

A. Apomixis

B. Embryology

C. Embryogeny

D. Cytology.

Answer: B

248. Ovule is attached to placenta of ovary wall

by:

A. Funicle

B. Petiole

C. Pedicel

D. Placenta.

Answer: A

249. The point of atachment of funcile with the

body of the ovule is

A. Nucellus

B. Chalaza

C. Micropyle

D. Hilum.

Answer: D

250. Embryo sac occurs in

A. Embryo

- B. Axis part of embryo
- C. Ovule
- D. Endosperm.

Answer: C



251. Genotypically the pollen grains produced

by an anther belong to

A. One type

B. Two types

C. Many types

D. All the above.

Answer: C

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252. Meiosis is best observed in dividing

A. Cells of apical meristem

B. Cells of lateral meristem

C. Microspores and anther wall

D. Microsporocytes.

Answer: D

253. Female gametophyte of angiosperm is called:

A. Ovule

B. Megaspore mother cell

C. Embryo sac

D. Nucellus.

Answer: C

254. In angiosperms the functional megaspore

in the linear tetrad is generally

A. Micropylar

B. Second from micropylar

C. Third from micropylar

D. Fourth from micropylar.

Answer: D
255. A polygonum type embryo sac is:

- A. 7 celled, 7 nuleate
- B. 7 celled, 8 nucleate
- C. 8 celled, 7 nucleate
- D. 8 celled, 8 nucleate.

Answer: B

256. Embryo sac is monosporic when it develops from

A. One of the four megaspores of a

megaspore mother cell

B. Three megaspores of a megaspore

tetrad

C. Two functional megaspores

D. The megaspore mother cell where meiosis has occurred but cytokinesis does not take place.

Answer: A

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257. Crassinucellate ovule shows:

A. Ill developed nucellus

B. Partially developed nucellus

C. Well developed nucellus

D. No nucellus.

Answer: C



258. Which one of the following pairs of plant

structures has haploid number of

chromosomes

- A. Nucellus and antipodal cells
- B. Antipodal cells and egg cell
- C. Antipodal cells and megaspore mother

cell

D. Nucelus and primary endosperm

nucleus.

Answer: B

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259. Point out the odd one

A. Nucellus

B. Embryo sac

C. Micropyle

D. Pollen grain.

Answer: D

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260. Which one shows meiosis

A. Root tip

B. Archesporium

C. Pollen grain

D. Anther.





261. When the ovule is curved and embryo sac becomes horse shoe shaped, such an ovule is called

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

Answer: B



262. Ovule is straight with funiculus, embryo sac, chalaza and micropyle lying on one straight line. It is

A. Othotropous

B. Anatropous

C. Campylotropous

D. Amphitropous.

Answer: A



263. Ovule is inverted with body fused to funicle, micropyle lying close to hilum and facing the placenta. It is

A. Hemitropous

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





264. Ovules of Capsella and Pisum sativum are

A. Orthotropous

- B. Anatropous
- C. Amphitropous
- D. Campylotropous.

Answer: D



265. In orthotropous ovule, the micropyle and

chalaza are

- A. Parallel to funiculus
- B. At right angles to funiculus
- C. Oblique angle to funiculus
- D. In straight line with funiculus.

Answer: D





266. Charomosome number in a flowering plant can be

A. Haploid, diploid and polyploid

B. Haploid and diploid

C. Only diploid

D. Only haploid.

Answer: A

267. Famous embryologist of india who also advanced the science of morphology and tissue culture in India is

A. P. Maheshwari

B. T.S Sadasivan

C. Swaminathan

D. Ramdas.

Answer: A

268. Double fertilization and triple fusion were

discovered by

A. Hofmeister

- B. Nawaschin and Guignard
- C. Leeuwenhoek
- D. Strasburger.

Answer: B



269. Water is not required in the fertilization of

A. Dryopteris

B. Selaginella

C. Vallisneria

D. Pisum/Maize.

Answer: D

270. The nuclei of the sperm and egg fuse as a result of

A. Base pairing of their DNA and RNA

B. Formation of hydrogen bonds

C. Mutual attractio de to differences in

electrical charges

D. Attraction of their protoplasts.

Answer: D

271. Double fertilization is a characteristic of

A. Angiosperms

B. Pteriodophytes

C. Gymnosperms

D. Bryophytes.

Answer: A

272. When pollen tube enters through micropyle, it is called:

A. Chalazogamy

B. Mesogamy

C. Porogamy

D. Pseudoamy.

Answer: C

273. Double fertilization is fusion of:

A. Two egg

- B. Two eggs and ploar nuclei with pollen nuclei
- C. One male gamete with egg and other

with synergid

D. One male gamete with egg and other

with secondary nucleus.

Answer: D





274. A diploid female plant and a tetraploid male plant are crossed. The ploidy of endosperm shall be

A. Tetraploid

B. Triploid

C. Diploid

D. Pentaploid.







275. Endosperm of angiosperms is produced

after fertilization of a male gamete with

A. Antipodals

B. Synergids

C. Secondary nucleus

D. Oosphere.

Answer: C

276. Triploid tissue is

A. Endosperm in Maize/Wheat/Lily

B. Leaf in Onion/Bryophyllum/Pinus

C. Root in Onion/Radish/Carrot

D. Ferm prothallus.

Answer: A

277. Which one forms the endosperm

A. Antipodals

B. Synergids

C. Secondary nucleus

D. Oosphere.

Answer: C

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278. Fertilization is synonym with

- A. Autogamy
- B. Syngamy
- C. Homogamy
- D. Apogamy.

Answer: B



279. A homogamous tall pistilltate plant (TT) is crossed with homogamous dwarf staminate

plant (tt). What is the genotype of

endosperm?

A. TTT

B. TTt

C. Ttt

D. ttt.

Answer: B



280. Milky water of green Coconut is

A. Liquid chalaza

B. Liquid nucellus

C. Liquid/free nuclear endosperm

D. Liquid female gametophyte.

Answer: C

281. In a fertilized ovule, n, 2n and 3n conditions occur respectively in

A. Antipodals, egg and endosperm

B. Egg, nucellus and endosperm

C. Endosperm, nucellus and egg

D. Antipodals, synergids and integuments.

Answer: A

282. Total number of meiotic division required

for forming 100 zygotes/100 grains of wheat is

A. 100

B.75

C. 125

D. 50

Answer: C

283. if the number of chromosomes in root cells is 14, what will be the number of chromosomes in synergids cells of an ovule of that parent

A. 14

B. 21

C. 7

D. 28

Answer: C





284. What is correct when chromosome number in leaf cells of an angiosperm is 22

A. 44 in stem cells

B. 44 in embryo

C. 22 in gametes

D. 11 in gametes.

Answer: D

285. Number of meiotic divisions required to produce 200/400 seeds of Pea would be

A. 200/400

B.400/800

C. 300/600

D. 250/500.

Answer: D

286. In angiosperms the number of meiotic divisions required to produce 100 macrospores is A. 125 B. 100 C. 50 D. 25

Answer: B



287. How many meiotic divisions are necessary

to produce 100 pollen grains

A. 125

B. 100

C. 50

D. 25

Answer: D

288. The filiform apparatus is present in

A. Synergids

B. Secondary nucleus

C. Antipodals

D. Egg nucleus.

Answer: A

289. In double fertilization, male gamete and

secondary nucleus form

A. Endosperm

B. Gamete

C. Embryo

D. Egg.

Answer: A

290. In angiosperms endosperm is formed by

A. Division of fused polar nuclei

Β.

C. Division of fused polar nuclei and male

gamete

D. Free nuclear divisions of megaspore

Answer: C
291. In angiosperm, triple fusion is necessary

for the formation of

A. Embryo

B. Endosperm

C. Suspensor

D. Fruit wall.

Answer: B

292. Male gametes in angiosperms are formed

by the division of

A. Generative cell

B. Uninucleate microspore

C. Vegetative cell

D. Pollen tube.

Answer: A

293. A typical anther wall possesses

- A. Endothecium and tapetum
- B. Exothecium and tapetum
- C. Exothecium and endothecium
- D. Exothecium, endothecium and tapetum.

Answer: D

294. In an embryo sac of a typical angiosperm there are

- A. Egg, synergids and secondary cell
- B. Egg, synergids, central cell and polar nuclei
- C. Egg, synergids, polar nuclei and antipodals

D. Egg, synergids and secondary wall.







295. Outer wall/exine of pollen grain is formed

of

- A. Cellulose
- B. Pectocellulose
- C. Lignin
- D. Sporopollenin.

Answer: D

296. Chromosome number in oosphere is 8. The number in angiospermic endosperm shall be A. 8 B. 12 C. 16

D. 24

Answer: D





297. Movement of pollen tube towards embryo

sac is

A. Thermotactic

B. Phototactic

C. Chemotactic

D. Thigmotactic.

Answer: C

298. Despite high level of heterozygosity, the progeny derived from a seed of cross pollinated plant was found to be completely uniform. One reason can be

A. Induced mutation

B. Polyploidy

C. Apomixis

D. Parthenocarpy.

Answer: C



299. Development of female gametophyte directly from megaspore mother cell without meiosis is called

A. Apogamy

B. Apospory

C. Syngamy

D. Parthenospore

Answer: B



300. A diploid egg, formed in embryo sac developed directly from nucellus, parthenogenetically grows into embryo. The apomixis is

A. Vegetative apomixis

B. Adventitive apomixis

C. Diplospory

D. Apospory





301. Chief pollinators of agricultural crops are

A. Butterflies

B. Bees

C. Moths

D. Beetles.

Answer: B



302. Transfer of pollen grains from the another to the stigma of another flower of the same plant is called

A. Autogamy

B. Allogamy

C. Xenogamy

D. Geitonogamy.

Answer: D



303. Fragrant flowers with cell developed nectaries are an adaptation for

A. Zoophily

B. Anemophily

C. Entomophily

D. Hydrophily.

Answer: C





304. Pollination occurring in closed flowers is

A. Dicliny

- B. Protogyny
- C. Allogamy
- D. Cleistogamy.

Answer: D

305. In chiropterophily, pollination is

performed by

A. Bats

B. Birds

C. Squirrels

D. Insects.

Answer: A

306. Cleistogamous flowers are found in

A. Arachis hypogea

- B. Solanum tuberosum
- C. Cucumis melo
- D. Allium cepa.

Answer: A



307. Feathery stigma occurs in

A. Pea

- B. Wheat/Jowar
- C. Datura
- D. Caesalpinia.

Answer: B



308. Bees are important to agriculture as they

A. Produce wax

- B. Perform pollination
- C. Prevent pollination
- D. Produce honey.

Answer: B

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309. The phenomenon of pollen grains being

transferred to stigma by air is called

A. Anemophily

B. Entomophily

C. Zoophily

D. Malacophily.

Answer: A

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310. Myrmecophily is pollination by

A. Ants

B. Moths

C. Birds

D. Bats.

Answer: A



311. Moth pollinated flowers have

A. Inconspicuos petals with abundant

pollen

B. Conspicuous coloured petals

C. Coloured petals and nectaries

D. White scented petals and nectaries.

Answer: D

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312. Dicliny is found in

A. Calotropis

B. Cucurbita

C. Crotalaria

D. Pisum.

Answer: B

Watch Video Solution

313. Cleistogamy is effective in

A. Oryza sativa

B. Brassica campestris

C. Allium cepa

D. Pisum sativam.





314. A plant pollinated by bats is

- A. Ophrys
- B. Salvia
- C. Kigellia
- D. All the above.





315. Cross pollination is

A. Autogamy

B. Allogamy

C. Chasmogamy

D. Cleistogamy.

Answer: B

316. Pollination by insect is called:

A. Entomophily

- B. Chiropterophily
- C. Anemophily
- D. Zoophily.

Answer: A

317. Pollination by slug and snails is called

A. Ornithophily

B. Chiropterophily

C. Entomophily

D. Malacophily.

Answer: D

318. Polar nuclei are located in

A. Pollen tube

B. Embryo sac

C. Ovule

D. Thalamus.

Answer: B

319. Sporopollenin is part of

A. Pollen grain covering

B. Oosphere covering

C. Ovule covering

D. Cell wall.

Answer: A

320. Synergid is connected to

A. Antipodal cell

B. Endosperm

C. Ovary

D. Egg cell.

Answer: D

321. Female gamete of angiosperms is represented by

A. Oospore

B. Carpel

C. Egg

D. Pollen grain.

Answer: C

322. Double fertilizatio results in formation of

A. Seed

B. Fruit

C. Megaspore mother cell

D. Endosperm.

Answer: D

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323. Endosperm nucleus is :

A. Haploid

B. Diploid

C. Triploid

D. Tetraploid.

Answer: C

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324. Fertilization involving carrying of male

gametes by pollen tube is

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

Answer: B



325. One of the most resistant biological material present in the exine of pollen grain is

A. Lignin

B. Hemicellulose

C. Lignocellulose

D. Sporopollenin.

Answer: D

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326. In endosperm of maize and Cycas, the ploidy level is:

- A. Triploid in both
- B. Triploid and haploid
- C. Triploid and diploid
- D. Diploid and triploid.

Answer: B

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327. In angiosperms, a mature male gametophyte is formed from a pollen mother cell through

- A. Two meiotic divisions
- B. Three metotic divisions
- C. One meiotic two mitotic divisions
- D. A single meiotic division.

Answer: C

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328. Polyembryony commonly occurs in

A. Carthamus
B. Citrus

C. Corchorus

D. Maize.

Answer: B

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329. The cell of endosperm have 24 chromosomes. What will be the number of chromosomes in the gametes?

A. 8

B. 16

C. 24

D. 48

Answer: A

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330. Tetrad of megaspores is generally

A. Tetrahedral

B. Linear

C. Decussate

D. Isobilateral.

Answer: B

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331. Micropyle occurs is

A. Ovary

B. Seed

C. Ovule

D. Both B and C.

Answer: D

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332. Pollen grains are shed at

A. One - celled stage

B. 2 - 3 celled stage

C. 3 - celled stage

D. 4 - celled stage.

Answer: B

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333. Ubisch bodies are connected with the formation of

A. Sporopollenin

B. Intine and pollenkitt

C. Exine

D. Pollenkitt and pollinia.

Answer: C

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334. When vegetative cell of zygote form embryo it is called

A. Apospory

B. Diploid polyembryony

C. Adventitive polyembryony

D. Apomixis.

Answer: C

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335. Study of pollen grains is

A. Palynology

- B. Palaeontology
- C. Palaeobotany
- D. None of the above.





336. Perisperm is

- A. Outer part of embryo sac
- B. Degenerate synergid
- C. Degenerate secondary nucleus
- D. Remainsof nucellus.

Answer: D



337. The process of fusion between male nucleus and egg nucleus is called as

A. Syngamy

B. Double fertilization

C. Conjugation

D. Triple fusion.

Answer: A





338. Germ pore is the area where exine is

A. Thick

B. Thick and uniform

C. Uniform

D. Absent.

Answer: D

339. Mature male gametophyte in

angiosperms is:

A. One

B. Two

C. Three

D. Four.

Answer: C

340. Triple fusion occurs between

A. Egg and male gamete

- B. Male gamete and secondary nucleus
- C. Antipodal cell and male gamete
- D. Egg and antipodal cell.

Answer: B



341. The gametes taking part in double

fertilization are

A. 5

B.4

C. 3

D. 2

Answer: C

342. Which one is diploid

A. Synergids

B. Secondary nucleus

C. Egg

D. Antipodals

Answer: B



343. Fore-runner of male gamete is

- A. Megasporangium
- B. Antipodal cell
- C. Microspore mother cell
- D. Embryo sac.

Answer: C

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344. Meiosis is best seen in

A. Gamete

B. Microsporangium

C. Pollen grain

D. Anther wall.

Answer: B

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345. Which is part of female reproductive

system

A. Embryo sac

B. Anther

C. Stamen

D. Microspore mother cell.

Answer: A

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346. Function of embryonal suspensor in angiosperms is to

A. Absorption of nourishment

endosperm region

C. Formation of secondary embryos

D. All the above.

Answer: B

Watch Video Solution

347. An anther having four microsporocytes

shall produce pollen grains

A. 24

B. 12

C. 8

D. 16

Answer: D



348. If an angiospermic male plant is diploid and female plant tetraploid, the ploidy level of endosperm will be

A. Haploid

B. Triploid

C. Tetraploid

D. Pentaploid.

Answer: B

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349. Double fertilization was first discovered

by Nawaschin (1898) in

- A. Lilium and Fritillaria
- B. Brassica and Iberis
- C. Papaya and pea
- D. Mango and Sugarcane.

Answer: A

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350. In mesogamy, pollen tube enters the ovule through

A. Middle of integuments after piercing the

tissues

B. Middle of integuments without piercing

the tissues

C. Chalaza

D. Middle of micropyle.

Answer: A

351. Pollen tube discharges its male gametes

into

A. Egg

B. Healthy synergid

C. Degenerating synergid

D. Central cell.

Answer: C

352. Endosperm formation is suppressed in

A. Liliaceae

B. Cyperaceae

C. Orchidaceae and Podostemonaceae

D. Gramineae.

Answer: C

353. Formation of embryo directly from nucellus and integument is

A. Simple polyembryony

B. Adventitive polyembryony

C. Vegetative polyembryony

D. Cleavage polyembryony.

Answer: B

354. Middle layer of anther wall is formed by

secondary outer parietal layer in

A. Dicots

B. Monocots

C. Both A and B

D. None of the above.

Answer: C

355. Sporopollenin occurs in

A. Female gametophyte

B. Male gametophyte

C. Vegetative cells of pollen grain

D. Exine of pollen wall.

Answer: D

356. The embryo in sunflower has

A. One cotylendon

B. Two cotylendons

C. Three cotylendons

D. Many cotylendons.

Answer: B

357. Formation of embryo sac is

A. Megasporogenesis

B. Megagametogenesis

C. Microgametogenesis

D. None of the above.

Answer: B

358. A unique phenomenon observed in the

embryo sac of angiosperms is

A. Fusion of gametes

B. Double fusion

C. Triple fusion

D. Double fertilization.

Answer: D

undergoes

A. Longitudinal division

B. Equal transverse division

C. Unequal transverse division

D. Oblique division.

Answer: C

360. Pollen tube deposits its inclusions in

A. Central cell

B. Synergids

C. Oosphere

D. Antipodal cells.

Answer: A

361. Suspensor is component off

A. Developing embryo

B. Mature embryo

C. Endosperm

D. Germinated embryo.

Answer: A

362. A number of fruitlets (seeds) of Strawberry are removed randomly during development of fruit

A. Normal fruit with fewer seeds is formed

B. Distorted fruit with under-developed

portionns is formed

C. A seedless fruit is formed

D. Fruit stops development.

Answer: B





363. In a young anther the four rows of cells which later produce pollen are called

A. Antheridium

B. Archesporium

C. Tapetum

D. Zoosporangium.

Answer: B

364. Wheat root cells have 42 chromosomes. The number of chromosomes in a cell of pollen grain is

A. 14

B. 21

C. 28

D. 42

Answer: B


365. Embryo sac is

A. Microgametophyte

B. Microsporangium

C. Megagametophyte

D. Megasporangium.

Answer: C

366. Polygonum type of embryo sac is

- A. 8- nucleate
- B. 16- nucleate
- C. 24- nucleate
- D. 32- nucleate.

Answer: A



367. Tapetum occurs in

A. Anther wall

B. Ovary wall

C. Male gametophyte

D. Female gametophyte.

Answer: A

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368. 8-nucleate embryo sac is

A. Monosporic

B. Bisporic

C. Tetrasporic

D. All the above.

Answer: D

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369. If meiosis occurs inside pollen grain and

egg nuclei, it will be

A. Zygotic meiosis

- B. Gametic meiosis
- C. Sporic meiosis
- D. None of the above.

Answer: B

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370. Malocophily is observed in

A. Ruppia

B. Zostera

C. Lemma

D. Bignonia.

Answer: C



371. Pollen grains are nongreen due to

A. Absence of plastids

B. Degeneration of plastids

chromoplasts

D. Attraction of vectors.

Answer: C

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372. Multinucleate condition is present in

A. Quiescent centre

B. Maize

C. Meristematic tissue

D. Liquid endosperm of Coconut.

Answer: D

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373. Entry of pollen tube throuh the end opposite to micropyle is

A. Porogamy

B. Chalazogamy

C. Mesogamy

D. Syngamy.

Answer: B

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374. In Capsella, embryo sac is

A. Haploid

B. Diploid

C. Triploid

D. Polyploid.

Answer: A

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375. In polygonum type of embryo sac, the cells are

A. Haploid

B. Diploid

C. Both A and B

D. Polyploid.

Answer: C

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376. Pollenkitt is formed from

- A. Endothecium
- B. Middle layers
- C. Microspore mother cell

D. Tapetum.





377. Free nuclear division occurs in

A. Flower

B. Gametes

C. Endosperm

D. Fruit.

Answer: C



378. Sexual reproduction of flowering plants

was discovered by

A. Camerarius

B. Nawaschin

C. Strasburger

D. Maheshwari.

Answer: A





379. Egg apparatus of angiosperm consists of

A. Egg and antipodals

B. Polar nuclei

C. Egg and synergids

D. Egg.

Answer: C

380. During formation of pollen grains, a microspore mother cell undergoes

A. One meiotic division

B. One metotic division

C. One meiotic and one mitotic division

D. One meiotic and two mitotic divisions.

Answer: A

381. Route used by pollen tube for entering

ovule is

A. Integument

B. Micropyle

C. Chalaza

D. Any of the above.

Answer: D

382. Number of chromosomes is 24 in nucellus. Number of chromosomes in microspore mother cell would be

A. 36

B. 30

C. 24

D. 12

Answer: C



383. Heaping of earth around base of stem in

Potato is meant for

A. Preventing exposure of roots

B. Providing extra support to delicate stem

C. Inducing development of more auxiliary

shoots

D. Making more water availabel.

Answer: C



384. When vegetative cell of zygote form embryo it is called

A. Apomixis

B. Adventitive polyembryony

C. Apospory

D. Diploid polyembryony.

Answer: B

385. Formation of an organism from a single, male gamete without fusion with egg is an example of

- A. Parthenogenesis
- B. Apogamy
- C. Apospory
- D. Parthenocarpy.

Answer: A



386. In a grafted plant, stock has 48 chromosomes while scion has 24 chromosomes. The chromosome number for root cells and eggs are

A. 48 and 24

B. 24 and 24

C. 24 and 12

D. 48 and 12.

Answer: D

387. Given below are assertion and reason. Point out if both are true and reason is correct explanation (A), both are true but reason is not correct explanation (B), assertion is true but reason is wrong (C) and both are wrong (D). Assertion. In apomixis, plants of new genetic sequences are produced. Reason. In apomixis, individuals of same genetic sequence meet.

B. B

C. C

D. D.

Answer: D

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388. Formation of embryo directly from nucellus and integument is

A. Adventitive polyembryony

B. Apospory

C. Apogamy

D. Apomixis.

Answer: A

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389. Anemophily occurs in

A. Grasses

B. Legumes

C. Euphorbia

D. Annona.

Answer: A



390. Malacophily is pollination by

A. Insects

B. Birds

C. Bats

D. Snails and slugs.

Answer: D

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391. Pollination by ants is

A. Malacophily

B. Myrmecophily

C. Entomophily

D. Ornithophily.





392. Maturation of anthers and stigma at the same times is

A. Allogamy

B. Xenogamy

C. Homogamy

D. Dichogamy.





393. Some plants having pleasant ordour and attactive colours for

A. Entomophily

- B. Hydrophily
- C. Anemophily
- D. All the above.





394. Night blooming flowers are generally

- A. Light weight
- B. Scented
- C. Brightly coloured
- D. Bloom in clusters.

Answer: B



395. Heterozygosity is produced following

A. Xenogamy

B. Geitonogamy

C. Autogamy

D. Cleistogamy.

Answer: A

396. Cross pollination is preferred over self pollination because it

A. Produces better offspring

B. Forms new varieties

C. Induces parthenogenesis

D. Is economical.

Answer: A

397. Anemophily occurs in

A. Salvia

B. Vallisneria

C. Coconut

D. Bottle Brush.

Answer: C



398. Developing pollen obtains its nutrition

from

A. Endothecium

B. Tapetum

C. Epidermis

D. Middle layer.

Answer: B

399. Pollination in Lotus is carried out by

A. Wind

B. Water

C. Insects

D. All the above.

Answer: C

400. In Casuarina fertilisation takes place through

A. Mesogamy

B. Porogamy

C. Chalazogamy

D. Apogamy.

Answer: C

401. Intraspecific incompatibility is overcome

by

A. Mixed pollenation

B. Self pollination

C. Wetting of anthers

D. Wetting of stigmas.

Answer: A
402. Triple fusion involves fusion of

- A. Two male gametes and one egg
- B. Two eggs and one male gamete
- C. Two male gametes and secondary

nucleus

D. One male gamete and two polar nuclei.

Answer: D

403. Anemophilous plants have

A. Sticky stigmas

B. Feathry stigmas

C. Prominent nectaries

D. Colourful flowers.

Answer: B



404. Pollnation by birds is

- A. Malacophily
- B. Ornithophily
- C. Chiropterophily
- D. Myrmecophily.

Answer: B

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405. Gloriosa superba exhibits

A. Heterostyly

B. Self sterility

C. Herkogamy

D. Cleistogamy.

Answer: C

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406. Cross pollination is

A. Cleistogamy

B. Autogamy

C. Allogamy

D. Chasmogamy.

Answer: C



407. Contrivance for self pollination is

A. Cleistogamy

B. Bisexuality

C. Homogamy

D. All the above.

Answer: D

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408. Endosperm of flowering plants develops

from

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

D. Tetraploid nucleusl.

Answer: C

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409. First haploid cell of female gameophyte is

A. Functional megaspore

B. Microspore mother cell

C. Megaspore mother cell

D. None of the above.





410. Effect of pollen on character of pericarp and seed coat is

A. Xenia

B. Metaxenia

C. Ruminate endosperm

D. Chimera.





Answer: C

412. Give below are assertion and reason. Point out if both are true and reason is correct explanation (A), both true but reason is not correct explanation (B), assertion is true but reason is wrong (C), both are wrong (D). Assertion. Megaspore mother cell undergoes meiosis to produce four megaspores. Reason. Megaspore mother cells and megaspores both are haploid

A. A

B. B

C. C

D. D.

Answer: C

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413. Function of guiding and attracting pollen

tube is done by

- A. Egg cell
- B. Filiform apparatus
- C. Antipodal cells
- D. Secondary nucleus.

Answer: B

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414. In angiosperms, triple fusion produces

A. Polar nucleus

- B. Secondary nucleus
- C. Primary endospermic nucleus
- D. Zygotic nucleus.

Answer: C

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415. In flowering plants archesporium gives

rise to

A. Wall of spoangium

B. Both wall and sporangium

C. Wall and tapetum

D. Tapetum and sporogenous cells.

Answer: B

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416. Pollen grains are able to tolerate extremes of temperature and desiccation because their exine consists of

A. Cutin

B. Suberin

C. Sporopollenin

D. Callose.

Answer: C

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417. The plant part which consists of two generations one within the other is

A. Seed

B. Germinated pollen grain

C. Embryo

D. Unfertilised ovule.

Answer: D

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418. Wind pollinated flowers are

A. Small, scented and colourless

B. Small, nonscented and colourless

C. Big, scented and coloured

D. Big, nonscented and colourless.

Answer: B

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419. Radicle end of embryo is towards

A. Hilum

B. Chalaza

C. Funicle

D. Micropyle.

Answer: D



420. Intraspecific cross pollination is

A. Allogamy

B. Geitonogamy

C. Xenogamy

D. Autogamy.

Answer: C

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421. Ovule integument gets transformed into

A. Seed

B. Seed coat

C. Fruit cell

D. Cotyledons.





422. In 82% of angiosperm families, ovule is

A. Anatropous

- B. Orthotropous
- C. Amphitropous
- D. Circinotropous.

Answer: A



423. Tapetal cells of stamens are

A. Diploid uninucleate

B. Tetraploid binucleate

C. Hexaploid tetranucleate

D. Polyploid multinucleate.

Answer: D

424. Vegetative fertilization, which involves formation of endosperm, is fusion of

A. One male gamete with diploid secondary

nucleus

B. Two vegetative cells

C. Two male gametes

D. Female gamete with secondary nucleus.

Answer: A

425. Largest cell of the ovule is

A. Megaspore mother cell

B. Antipodal cell

C. Central cell

D. Size of cells variable.

Answer: C

426. Match and find the correct combination

- (a)Pollen grains
- (b) Pollen sacs (e) Microspores
- (c) Stamens
- (d) Microsporangia
- (f) Microsporophylls

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427. Entry of pollen tube through chalazal end

is

A. Syngamy

B. Porogamy

C. Mesogamy

D. Chalazogamy.

Answer: D

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428. In oogamy. Fertilization involves

A. Small, nonmotile female gamete and

large motile male gamete

B. Large nonmotile female gamete and

small motile male gamete.

C. A nonmotile female gamete and a small

nonmotile male gamete

D. A large motile female gamete and a

small nonmotile male gamete.

Answer: B

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429. Given below are assertion and reason. Point out if both are true with reason being correct explanation (A), both are true but reason is not correct explanation (B), assertion is true but reason is wrong (C) and both are wrong (D) . Assertion. Insects visit flowers to gather honey. Reason. Attractionn to flowers prevents the insects from damaging other parts.

A. A

B. B

C. C

D. D

Answer: D

430. The pollen tube usually enters the embryo sac:

A. Through one of the synergids

B. Directly pentrates the egg

C. Between one synergid and central cell

D. By knocking of antipodal cell.







431. Rarely among angiosperms in pollen grains influenced the endosperm this is called as

A. Metaxenia

B. Nemec phenomenon

C. Xenia

D. Mesogamy.







432. In flowering plants, meiosis takes place during

- A. Pollen grain formation
- B. Seed formation
- C. Gamete formation
- D. Seed germination.

Answer: A

433. Development of seed frim an unfertilized

egg is

A. Vivipary

B. Parthenocarpy

C. Aporgamy

D. Apospory.

Answer: C



434. Match the columns with correct

combination of endosperm chromosomes

| Column I | | Column II | |
|----------|------------------------------|------------|----|
| (a) | Pisum sativum | <i>(i)</i> | 72 |
| (b) | Ory za sativ a | (ii) | 24 |
| (c) | Nicotiana tabacum | (iii) | 60 |
| (d) | Allium cepa | (iv) | 36 |
| | | (v) | 21 |



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435. Fibrous thickenings of hygroscopic nature

are found in which part of anther walls?

A. epidermis

- B. Tapetum
- C. Middle layer
- D. Endothecium.

Answer: D



436. The process in which haploid embryo is formed from haploid egg without fertilization is called :

A. Apospory

- B. Aposgamy
- C. Agamospermy
- D. Vegetative reproduction

Answer: C



437. Which of the following statements is/are

correct ?

(i) Endothecium lies below epidermis

(ii) Fusion of egg with male gamete is calledapogamy(iii) Synergids are banloid

(iii) Synergids are haploid.

(iv) The point at which funicle touches the ovule is raphe.

A. a and d only

B. a and b only

C. b and d only

D. a and c only.

Answer: D





438. The process of transfer of pollen grains from anther to stigmatic surface of the flower with the help of water is called

A. Anemophily

B. Hydrophily

C. Zoophily

D. Ornithophily.






439. Double fertilization results in the production of

A. Haploid nucleus

B. Diploid nucleus

C. Triploid nucleus

D. Tetraploid nucleus.

Answer: C

440. Development of seed frim an unfertilized

egg is

A. Parthenocarpy

B. Sporophytic budding

C. Polyembryony

D. Micropropagation.

Answer: A



441. which of the following statements is true with reference to cross pollination in angiosperms?

A. It most often results in higher yield of plants

B. It occurs only in unisexual flowers

C. It can fail to occur due to distance barrier

D. It requires production of large nuumber

of pollen grains.

Answer: D



442. In a type of apomixis known as adventure

embryony embryos develop directly from the

A. Nucellus or integument

B. Zygote

C. Synergids or antipodals of embryo sac

D. Accessory embryo sacs in the ovule.

Answer: A

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443. Pollen grains are produced in

A. Anther

B. Pollen sac

C. Filament

D. Stigma.

Answer: B

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444. For self pollination flower must be:

A. Asexual

B. Monosexual

C. Unisexual

D. Bisexual.





445. Which is diploid structure

A. Pollen grains

- B. Egg
- C. Megaspore
- D. MMC.

Answer: D



446. Ubisch bodies are secreted by

A. Ovule

B. Tapetum

C. Both A and B

D. None of the above.

Answer: B

447. In Cucumber, pollen tube enters embryo sac through

A. Integuments

B. Micropyle

C. Endosperm

D. Chalaza.

Answer: A

448. The arrangement of the nuclei in a normal embryo sac in the dicot plants is

A. 3 + 3 + 2

B. 2 + 4 + 2

C. 3 + 2 + 3

D. 2 + 3 + 3.

Answer: C

449. What would be the number of chromosomes in the cell of the aleurone layer in a plant species with 8 choromosomes in its synergids

A. 8

B. 16

C. 24

D. 32

Answer: C



450. Parthenocarpic fruits are produced by

- A. Treating plants with phenyl mercuric acetate
- B. Treating plants with low concentrations

of gibberellic acid and auxin

C. Removing androecium of flowers before

release of pollen grains

D. Raising plants from vernalised seeds.





451. From which cell of embryo, plumule is produced

A. Apical octant

B. Proembryo

C. Hypophysis

D. Micropylar octant.





452. Cleistogamous flowers are

- A. Wind pollinated
- B. Insect pollination
- C. Bird pollinated
- D. Self pollination.

Answer: D



453. In the angiosperm ovule, central cell of the empryo sac, prior to the entry of pollen tube, contains

- A. Two haploid polar nuclei
- B. One diploid secondary nucleus
- C. Single haploid nucleus
- D. One diploid and one haploid nuclei.

Answer: B



454. Plants of which one of the following groups of genera are pollinated by the same agency

- A. Triticum, Cocos, Mangifera
- B. Ficus, Kigelia, Casuarina
- C. Bombax, Butea, Bauhinia
- D. Salvia, Morus, Euphorbia.

Answer: C

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Column I

Chiropterophily

- (a) Zoophily
- (b) Ornithophily
- (c) Entomophily
- Column II
- 1. Pollination by birds
- 2. Pollination by insects
- 3. Pollination by bats
- 4. Pollination by animals

Match the column

(d)

455.

- A. a-3,b-2,c-1,d-4
- B. a-1,b-2,c-3,d-4
- C. a-4,b-1,c-2,d-3
- D. a-4,b-2,c-3,d-1





456. In angiosperms endosperm is formed by

- A. Division of fused polar nuclei
- B. Free nuclear division of megaspore
- C. Division of fused synergids and male

gamete

D. Division of fused polar nuclei and male

gamete.

Answer: D

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457. Ruminate endosperm is commonly found

in seeds of

A. Cruciferea

B. Euphorbiaceae

C. Asteraceae

D. Annonaceae.

Answer: D



458. What would be number of chromosomes

in aleurone layer if megaspore mother cell contains 10 chromocomes

B. 20

C. 15

D. None of the above.

Answer: C

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459. Fusion of a male gamete with agg in embryo sac is

A. Autogamy

- B. Synagamy
- C. Double fertilisation

D. Triple fusion.

Answer: B

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460. Identify the wrong statement regarding post fertilisation development

A. Ovary wall develops into perciarp

B. Outer integument of ovule develops into

tegmen

C. Fusion nucleus (triple nucleus) develops

into endosperm

D. Ovule develops into seed

Answer: B

461. These processes are necessary for the complete development of male gametophyte from pollen mother cell

- A. Two meiotic divisions and one mitotic division
- B. Two mitotic divisions
- C. One meiotic and two mitotic divisions
- D. One meiotic cell division and one mitotic
 - cell division.





462. Radicle is produced from

A. Apical octant

- B. Micropylar octant
- C. Vegetative cell
- D. Hypophysis.

Answer: D



463. Male gametes are formed by

A. Pollen cell

B. Generative cell

C. Pollen tube cell

D. Pollen mother cell

Answer: B

464. Pericarp of fruit develops from

A. Wall of overy

B. Nucellus

C. Funicle

D. Seed coat.

Answer: A

465. Embryo sac develops from megaspore mother cell through

A. 1 meiosis and 2 mitoses

B. 1 meiosis and 3 mitoses

C. 1 meiosis and two meioses

D. 2 meioses and 2 mitoses.

Answer: B

466. Versatile anthers are connecter with

A. Entomophily

B. Malacophily

C. Ornithophily

D. Anemophily.

Answer: D

467. In the given diagram name of the parts A,

B, C, D and E



A. a-intine, b-exine, c-germpore, d-

generative cell, e-vegetative cell

B. a- exine, b-intine, c-vegetative cell, d-

germpore, e-generative cell

C. a-germpore, d-exine, e-vegetative cell

D. a- germpore, b-generative cell, c- exine, d-

intine, e-vegetative cell.

Answer: B

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468. if root of a flowering plant has 24 chromosome ,then its gamete has many chromosomes ?

A. 4

B. 8

C. 12

D. 24

Answer: C

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469. Raphe is

A. Ridge formed by fused funiculus

B. Funicle attached to ovule

C. Part of nucellus

D. Part of flower.

Answer: A

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470. What statement is true about microspore

of angiosperms

A. Resultant of mitotic division

- B. First cell of gamophytic generation
- C. Resultant of double fertilization.
- D. First cell of endosperm.

Answer: B

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471. if the number of chromosomes in root cells is 14, what will be the number of chromosomes in synergids cells of an ovule of that parent

A. 28

B. 21

C. 14

D. 7

Answer: D



472. Which one of the following is surrounded

by a callose wall

- A. Male gamete
- B. Pollen grain
- C. Egg
- D. Microspore mother cell.

Answer: D

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473. Xenogamy is
A. Pollination between two flowers of two

different plants

B. Pollination between two different

flowers of same plant and same branch

C. Pollination between anther and stigma

of same flower

D. A mechanism of parthenocarpy.

Answer: A

474. Match the columns and select the correct

combination

| | Column I | | Column II |
|---|--------------|----|-----------|
| a | Ovule | 1. | Endosperm |
| b | Funiculus | 2. | Aril |
| с | Nucellus | 3. | Seed |
| d | Polar nuclei | 4. | Perisperm |

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475. Given below are assertionn and reasonn. Point out if both are true with reason being correct explanation (A), both true but reason is not correct explanation (B), assertion is true

but reason is wrong (C), both are wrong (D). Assertion. 7 celled, 8 nucleate and monosparic embryo sac is called Polygonum type of embryo sac. Reason. It was discovered by Hofmeistter for the first time in Polygonum

A. A

B. B

C. C

D. D.

Answer: C





476. Choose the mismatched option

A. wind - Cannabis - anemophily

B. Water - Zostera - hydrophily

C. Insects - Salvia - entomophily

D. Birds - Adansonia - ornithophily

Answer: D

477. Select the correct order of endosperm

types.



478. Secondary nucleus is formed by

A. Egg apparatus

B. Fusion of two polar nuclei

- C. degenerating synergid
- D. Antipodal cells.

Answer: B

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479. Suspensor of embryo is formed by

A. Basal cell

B. Apical cell

C. Terminal cell

D. Hypophysis.

Answer: A



480. The ovary after fertilization is converted

into

A. Embryo

B. Fruit

C. Endosperm

D. Seed.

Answer: B



481. Unisexuality of flowers prevents

A. Geitonogamy but not xenogamy

B. Autogamy and geitonogamy

C. Autogamy but not geitonogamy

D. Both geitonogamy and xenogamy.

Answer: C

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482. What does the filiform apparatus do at the entrance into or Function of filiform apparatus is to

A. Brings about opening of pollen tube

B. Guides pollen tube form synergid to egg

C. Helps in the entry of pollen tube into

synergid

D. Prevents entry of more than one pollen

tube into embryo sac.

Answer: C

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483. Which one of the following is resistant

action

A. Pollen exine

- B. Leaf cuticle
- C. Cork
- D. Wood fibre.

Answer: A



484. Which pair has haploid nature

A. Nucellus and antipodal cells

B. Egg nucleus and secondary nucleus

C. Megaspore mother cell and antipodal

cells

D. Egg cell and antipodal cells.

Answer: D

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485. One advantange of cleistogamy is

A. It leads to greater geneater genetic

diversity

B. Seed dispersal is more efficient and wide

spread

C. Each visit of pollinator brings hundreds

of pollen grains

D. Seed set is not dependent upon

pollinators.

Answer: D

486. A typical angiospermic embryo sac is 8 - nucleate and

A. Single celled

B. Seven celled

C. Eight celled

D. Four celled.

Answer: B

487. Assured seed set is possible even in absence of pollinators when flower is

A. Xenogamous

B. Chasmogamous

C. Geitonogamous

D. Cleistogamous.

Answer: D

488. Ina mature embryo sac the central cell is

A. Single nucleate

B. Binucleate

C. Four nucleate

D. Eight nucleate.

Answer: B

489. Endosperm is completely consumed by

the developing embryo in

A. Pea, Bean and Groundnut

B. Maize, Bean and Castor

C. Castor, Pea and Groundnut

D. Maize, Bean and Pea.

Answer: A

490. Formation of liquid endosperm in coconut takes place because: A. Karyokinesis is not followed bv cytokinesis B. Karyokinesis is followed by cytokinesis C. Formation of liquid endosperm is not dependent upon karykinesis and cytokinesis D. None of the above.

Answer: A



- 491. Which is not true
 - A. Pollen grains are released from anthers

at 2-celled stage

B. Sporogenous cell directly behaves as

megaspore mother cell

C. Megaspore divides twice to form an 8-

nucleate embryo sac

D. Egg and synergids always lie near

micropylar end.

Answer: C



492. Consider the following statements and

choose the correct option

The genetic consitution of a plant is unaffected in vegetative propagation

(ii) Rhizome in ginger serves as an organ of

vegetative reproduction

(iii) Totipotency of cells enables us to micropropagate plants

A. i and ii correct

B. i,ii,iii all correct

C. iii alone true

D. ii and iii are true.

Answer: B

493. There are 10 flowers in one individual plant of Crotalaria. In each microporangium of every stamen of all the flowers there are 30 microspore mother cells. How many pollen grains are formed from that plant

A. 4000

B. 10000

C. 24000

D. 48,000 .

Answer: D





494. Monocot seed generally shows

- A. Epigeal germination
- B. Hypogeal germination
- C. Both A and B
- D. None of the above.

Answer: B

495. Pollen grains have spiny exine to aid in

A. Entomophily

B. Anemophily

C. Ornithophily

D. Cheiropterophily.

Answer: A

496. A non-nutritive structure is

A. Tapetum

B. Endosperm

C. Integument

D. Palisade parenchyma.

Answer: C

497. Type of divisions that occurs during formation of megaspore is

A. Meiosis

B. Mitosis

C. Meiosis followed by mitosis

D. Mitosis followed by meiosis.

Answer: A

498. Number of gametes produced by a male

gametophyte of flowering plant is

A. Four

B. One

C. Three

D. Two.

Answer: D

499. Pollen grain is related to embryo sac as

A. Sperm is to the female gametophyte

B. Sperm is to the egg

C. Male gametophyte is to the egg

D. Male gametophyte is to the embryo sac.

Answer: D

500. Development of microsporangium in angiosperms and gymnosperms is of typical:

A. Eusporangiate type

B. Leptosporangiate type

C. Monosporic type

D. Tetrasporic type.

Answer: A

501. A typical dicotylendonous embryo consists of

A. Radicle only

B. Radicle, embryonal axis and cotyledons

C. Cotylendons only

D. Embryo axis only.

Answer: B

502. Select the incorrect statement regarding

angiosperm

A. Pollen grain is the first cell oof male

gametophyte

B. Megaspore is diploid

C. Megaspore is the first cell of female

gametophyte

D. All of above.







503. Which of the following statements about sporopollenin is wrong

A. Exine is formed of sporopollenin

B. Sporopollenin is not degraded by any

known enzyme

C. Sporopollenin occurs in the area of germ

pores only

D. Sporopollenin is most resistant organic

material.

Answer: C

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504. In the diagram given above, parts labelled

as 'A', 'B', 'C', 'D', 'E' and 'F' are respectively

identified as



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505. Apomictic embryos in citrus arise from

A. Matermal sporophytic tissue in ovule

B. Antipodal cells

C. Diploid cells

D. Synergids.

Answer: A

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506. Wind pollinated flowers are

A. Small, brightly coloured, producing large

number of pollen grains

B. Small, producing large number of dry

pollens

- C. Large producing abundant nectar and pollen
- D. Small producing nectar and dry pollen.

Answer: B
507. Which of the following is correct chronological order of the division taking place through an apical or embryo cell to a sixteen cell stage

A. Vertical division_____ Transverse division

Division at right angles to both thhe

privious divisions____ Periclinal division

B. Vertical division___ Vertical division at

right angles to the first

division___Division at right angles to

| both the privious divisions Periclinal |
|---|
| divisions |
| C. Vertical division Transverse division |
| Periclinal division |
| D. Vertical division Vertical division at |
| right angles to the first division at |
| right angles to the first division |
| Transverse division Periclinal division. |
| |

Answer: D

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508. Type of ovule present in Opuntia is

A. Amphitropous

B. Campylotropous

C. Circinotropous

D. Orthotropous.

Answer: C

509. Number of male gametes formed 16 microspore mother cells is A. 128 B. 64 C. 32 D. 16 Answer: A Watch Video Solution

510. Microspore mother cell forms

A. Microsporangium

B. Pollen sac

C. Female gametophyte

D. Pollen grains.

Answer: D

511. Syngamy produces

A. Embryo

B. Endosperm

C. Perisperm

D. Both A and B.

Answer: A

512. Which one produces embryo sac

A. Megaspore mother cell

B. Megaspore

C. Microspore

D. Embryo cell.

Answer: B

513. Part of suspensor that helps in food absorption is

A. Hypophysis

B. Haustorium

C. Basal cell

D. Intermediate cell.

Answer: B

514. Thread-like pollen without exine are found

in

A. Hydrophily

B. Entomophily

C. Anemophily

D. Chiropterophily.

Answer: A

515. Clones do not appear during

A. Cuttings

B. Budding

C. Grafting

D. Seed propagation.

Answer: D

516. In porogamy, pollen tube enters ovules through

A. Micropyle

B. Chalazal end

C. Ovary wall

D. Integument.

Answer: A

517. Cleistogamous flower is found in

A. Tobacco

B. Mirabilis

C. Viola

D. None of the above.

Answer: C

518. The only type of pollination which during pollination brings genetically different types of pollen grains to the stigma, is:

A. Xenogamy

B. Geitonogamy

C. Chasmogamy

D. Autogamy.

Answer: A

519. Gametogenesis in haploid plants involves

A. Binary fission

B. Meiosis

C. Mitosis

D. Amitosis.

Answer: C



520. Which is example of parthenocarpic fruit

A. Strawberry

B. Cashew

C. Banana

D. Apple.

Answer: C



521. What is wrong

A. Pollen grains remain viable for several months because of sporopollenin covering 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



522. Study the following statements and select the correct option.

(i) Tapetum nourishes the developing pollen grains.

(ii) Hilum represents the junction between ovule and funicle.

(iii) In aquatic plants such as water hyacinth

and waterlity, pollination occurs by water.

(iv) The primary endosperm nucleus is triploid.

A. a, b correct, c, d incorrect

B. a, b, d correct, c incorrect

C. b, c, d correct , a incorrect

D. a, d correct, b, c incorrect.

Answer: B

523. Identify the parts labelled a, b and c





524. In which pollination is autogamous

A. Chasmogamy

B. Geitonogamy

C. Cleistogamy

D. Xenogamy.

Answer: C

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525. Nucellar polyembryony is reported in species of

A. Triticum

B. Brassica

C. Citrus

D. Gossypium.

Answer: C

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526. In angiosperms functional megaspore

develops into

A. Endosperm

B. Embryo sac

C. Ovule covering

D. Pollen sac.

Answer: B

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527. Endosperm is not completely consumed

by developing embryo in

A. Gram

B. Bean

C. Castor

D. Pea.

Answer: C

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528. A characteristic of tapetum is

A. Multilayered

B. Multinucleate

C. Stores food

D. Nourishes megaspore.

Answer: B

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529. Cleistogamy does not require anthesis

because

A. No pollination anent is required

B. It assures heterozygosity

C. it allows xenogamy

D. it favours insect pollination.

Answer: A

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530. Given below are assertion and reason. Point out if both are true with reason being correct explanation (A), both are true but reason is not correct explanation (B), assertion is true but reason is wrong (C) and both are wrong (D) . Assertion. In some species of asteraceae and poaceae, seeds are formed without fertilization Reason. Formation of fruit without fertilization is called parthenocarpy

A. A

B. B

C. C

D. D.

Answer: B





531. Both, autogamy and geitonogamy are prevented in

A. Papaya

B. Cucumber

C. Castor

D. Maize.

Answer: A

532. Even in absence of pollinating agents seed-setting is assured in

A. Zostera

B. Fig

C. Salvia

D. Commelina.

Answer: D

533. The coconut water and the edible part of coconut are equivalent to or the morphological nature of the edible part of coconut is

A. Endosperm

B. Embryo

C. Endocarp

D. Mesocarp.

Answer: A

534. Xenogamy is essentially a type of

A. Autogamy

B. Homogamy

C. Allogamy

D. Cleistogamy.

Answer: C

535. What is the function of germ pore

- A. Emergence of radicle
- B. Emergence of pollen tube
- C. Release of male gametes
- D. Absorption of water for seed

germination.

Answer: B

536. Which one is wrong

A. Vegetative cell is larger than generative

cell

- B. Intine is made of cellulose and pectin
- C. Pollen grains of some plants remain

viable for months

D. Double fertilization is absent where

pollen is shed in 2- celled stage.

Answer: D



537. Plants with ovaries having only one ore a

few ovules are generally pollinated by

A. Wind

B. Bees

C. Birds

D. Butterflies.

Answer: A

538. Innermost microsporangial wall layer that nourishes pollen grains is

A. Endothecium

B. Tapetum

C. Endodermis

D. Sporogenous tissue.

Answer: B

539. Which plant product is the hardest

A. Suberin

B. Lignin

C. Sporopollenin

D. Cutin.

Answer: C

540. Entomophilous flowers are related to

A. Honey bees

B. Wind

C. Water

D. Hairy Mammals

Answer: A
541. Remnants of nucellus present in seed of

Black Pepper and Beet are called

A. Pericarp

B. Periderm

C. Endosperm

D. Perisperm.

Answer: D

542. Which of the following events takes place

after double fertilization

A. Pollen grain germinates over stigma

B. Pollen tube enters the embryo sac

C. Two male gametes are discharged into

embryo sac

D. PEN develops into endosperm

Answer: D

543. Match the columns and choose the

•

correct combination

| 27 C - 2 C - 2 | I | Π | | | | |
|----------------|-------------|----|----------------------------------|--|--|--|
| 1. | Funicle | а. | Small opening of ovule | | | |
| 2 | Integuments | b. | Stalk of ovule | | | |
| 3. | Chalaza | с. | Protective envelopes | | | |
| | | | of ovule | | | |
| 4. | Hilum | d. | Junction part of ovule and stalk | | | |
| 5. | Micropyle | e. | Basal part of ovule | | | |

A. 1-b,2-c,3-e,4-d,5-a

B. a-1,b-c,3-b,4-d,5-e

C. 1-b,2-c,3-a,4-d,5-e

D. 1-c,2-d,3-e,4-a,5-c





544. Based on entry of pollen tube into ovule, which one is mesogamy

A. Through micropyle

B. Through placenta and funiculus

C. Through integument

D. Entry through funiculus, chalaza and

embryo sac from egg apparatus end.

Answer: C

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545. Match the columns and choose the

correct combination

T

- (b) Geitonogamy
- (c) Entomophily
- (d) Xenogamv

Ħ

- (a) Cleistogamy (m) Insect pollination
 - (n) Bud pollination
 - (o) Pollination between flowers of the same plant
 - (p) Wind pollination
 - (q) Cross pollination.

A. a-m,b-q,c-n,d-o

B. a-n,b-o,c-m,d-q

C. a-q,b-p,c-o,d-n

D. a-o,b-m,c-q,d-n

Answer: B

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546. if the number of chromosome in root cell is 14 , then what will be the chromosome number in syergids ?

A. 14

B. 21

C. 7

D. 28

Answer: C

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547. Sporopollenin is formed by polymerisationn of

- A. Fat and phenos
- B. Fats and esters
- C. Carotenoids and fat
- D. Carotenoid and esters.

Answer: A

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548. Commonly the pollen tube enters the ovule through

A. Hilum

- B. Chalaza
- C. Funcile
- D. Micropyle.

Answer: D



549. Development of an embryo sac from a

nucellar cell is

- A. Diplospory
- B. Apospory
- C. Apogamy
- D. Adventitive embryony.

Answer: B

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550. A seed is formed from

A. Ovule

B. Embryo

C. Embryo sac

D. Ovary.

Answer: A

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551. What are chromosome number in thhe following respectively (i) Synergid of Gossypium (ii) Leaf cells in Allium (iii) Endosperm of Saccharum

A. 48, 16, 36

B. 52, 26, 32

C. 26, 16, 120

D. 48, 96, 24.

Answer: C

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552. Identify the correct statement

| A. Tet | rasporic | embr | уо | sac | occurs | s in | | | |
|---|------------|---------|-------|--------|--------|-------|--|--|--|
| Pep | oromia | | | | | | | | |
| B. Stamens are epipetalous in Grevillea | | | | | | | | | |
| C. Cro | oss pollir | nation | is | Kigell | ia pir | nnata | | | |
| takes place by snails | | | | | | | | | |
| D. In | Scrophul | laria a | andro | oeciur | n ma | tures | | | |
| earlier than gynoecium. | | | | | | | | | |
| | | | | | | | | | |
| Answer: A | | | | | | | | | |

553. Perisperm differs from endosperm in

A. Its formation by fusion of secondary

nucleus with several sperms

B. Being a haploid tissue

C. having no reserve food

D. Being a diploid tissue.

Answer: D

554. Megasporangium is equivalent to

A. Ovule

- B. Embryo sac
- C. Fruit
- D. Nucellus.

Answer: D



555. Seed coat is not thin, membranous in

A. Gram

B. Maize

C. Coconut

D. Groundnut.

Answer: C

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556. Which is correct

pollen

B. Hard outer layer of pollen is called intine

C. Sporogenous tissue is haploid

D. Endothecium produces microspores.

Answer: A

557. Animal vectors are required for

pollination in

A. Mulberry

B. Cucumber

C. Maize

D. Vallisneria.

Answer: B

558. Which is correct

A. Sporopollenin is made up of inorganic

materials

B. Sporopollenin can withstand high temperature as well as strong acids and alkalies C. Sporopollenin can withstand high temperatures but not strong acids D. Sporopollenin can be degeraded by enzymes.





559. Given here is diagram of embryo sac. Which option is correctly matched



A. a- synergids, b- antipodal cells, c- egg

cell, d- polar nuclei

B. a- egg cell, b- synergids, c- polar nuclei, d-

antipodal cells

C. a- egg cell, b- polar nuclei, c- synergids, d-

antipodal cells

D. a- antipodal cells, b- egg cell, c- polar

nuclei, d- synergids.

Answer: B

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560. Normally how many pollen mother cells

are necessary for formation of 400 seeds

A. 200

B. 500

C. 100

D. 400

Answer: C

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561. Identify correctly the labels a, b, c and d in

the figure of typical flower



A. a- petals, b- sepals, c- stamens, d- pistil B. a- sepals, b- pistil, c- petals, d- stamens C. a- sepals, b- pistil, c-stamens, d- petals

D. a- sepals, b- petals, c- pistil, d- stamens.

Answer: C



562. Occurrence of triploid primary endosperm nucleus is cheracteristic of

A. Algae

- B. Bryophytes
- C. Gymnosperms
- D. Angiosperms.

Answer: D

563. Pollen grains of rice and wheat lose their

viability in ….. Minutes of their release

A. 30

B. 10

C. 60

D. 90

Answer: A

564. After double fertilization, a mature ovule

has

A. 1 dipoid and 1 haploid cell

B. 1 diploid and 1 triploid cell

C. 2 haploid and 1 triploid cell

D. 1 haploid and 1 triploid cell.

Answer: B

565. In adventitive embryony

A. Embryo is formed without meiosis and

syngamy

B. Embryo develops directly from a diploid

cell other than egg

- C. Egg is induced artifically to develop into embryo
- D. Young ones develop from reproductive units.

Answer: B



566. Which is not correct about entomophilous flowers

- A. Pollen grains are heavy and sticky
- B. Stigmas are unbranched
- C. Sepals are well developed.
- D. Petals brightly coloured





567. In L.S. embryo of grass, which one shows correct labelling



A. a- scutellum, b- coleoptile, c- shoot apex,

d- epiblast, e- radicle, f- root cap, g-

coleorhiza

B. a- root cap, b- shoot apex, c- scutellum,

d- coleoptile, e- epiblast, f- radicle, g-

coleorhiza

C.a- coleorhiza, b- radicle, c- epiblast, dcoleoptile, e- root cap, f- scutellum, g-

shoot apex

D. a- coleptile, b- scutellum, c- radicle, dshoot apex, e- epiblast, f- coleorhiza, groot cap.





568. Immature male gametophyte differs from a mature male gametophyte in that it

A. Has not yet left pollen sac

B. Has not yet germinated and its

generative cell has not divided into two

male gametes

C. Is a microspore that has not yet divided

by mitosis

D. Still consists of microsporocyte.

Answer: B

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569. Nitsch was able to get strawberries of

different shapes by

A. Splitting the ovary

B. Removing the parianth

C. Selectively removing some carpels

D. Inserting an alcohol dipped neddle into

overy.

Answer: C

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570. In flowering plants, double fertilization

involes

A. Fertilization of egg cell and central cell by two male gametes brought by same pollen tube B. Fertilization of egg cell by two male gametes C. Fertilization of egg cell and central cell by two male gametes brought by different pollen tubes D. Fertilization of two egg cells by two male gametes brought by same pollen tube.




571. Which part of flowering plant contains sporogenous tissue

A. Stamen

B. Pollen

C. Microspores

D. Young anthers.





572. Embryo sac of angiosperms contains

A. 3- celled egg apparatus, 3 antipodal cells

and 2 polar nuclei

B. 2- called egg apparatus, 3 antipodal cells

and 2 polar nuclei

C. 3- celled egg apparatus, 2 antipodal cells

and 1 polar nucleus

D. 3- celled egg apparat us, 1 antipodal cell

and 2 polar nuclei.

Answer: A

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573. Nucleus of megaspore divides mitotically

from two nuclei which move to opposite poles

and leter from an embryo sac which is

- A. 2- nucleate
- B. 4- nucleate
- C. 6- nucleate
- D. 8- nucleate.

Answer: D

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574. Scutellum is part of

A. Leaf bud

B. Dicot embryo

C. Monocot embryo

D. none of above.

Answer: C

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575. Endosperm, a product of double fertilisation in angiosperm is absent in the seeds of

A. Gram

B. Maize

C. Castor

D. Orchids.

Answer: A

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576. An endospermic seed is

B. Bean

C. Gram

D. Castor.

Answer: D

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577. PEN stands for

A. Primary endosperm nourishment

B. Primary endosperm nucleus

C. Primary embryo nourishment

D. Poly embryo nourishment.

Answer: B



578. Himgiri variety which is resistant to hill bunt disease belongs to taxon in which pollen grains lose viability within 10 minutes of their release. The taxon belongs to

A. Sapindales

- **B.** Polemoniales
- C. Rosales
- D. Poales.

Answer: D



579. wind pollinated plants generally do not

show the character

- A. Feathery stigmas
- B. Single ovule in the ovary
- C. Well exposed stamens
- D. Flowers are large and colourful.

Answer: D

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580. Identify the pair of wrong statements I. Intine of pollen grains is made up of sporopollenin, II.l Pollen grains are well preserved as fossils because of the presence of sporopollenin, III. Enzymes can degrade the organic material of the pollen grain exine, IV. Sporopollenin can withstand high temperature, strong acids and alkali

A. III, IV

B. I, III

C. I,II

D. II,III

Answer: B





581. In which of the following plants, pollen is released before the stigma becomes receptive in the same flower

A. Allium

B. Colchicum

C. Datura

D. Solanum.







582. With respect to angiosperms, identify the incorrect pair from the following

A. Antipodals-2n

B. Vegetative cell of male gametophyte-n

C. Primary endosperm nucleus-3n

D. Cells of nucells of ovule-2n.

Answer: A

583. In Castor and Maize plants

A. Autogamy is prevented but not

geitonogamy

B. Both autogamy and geitonogamy are

prevented

C. Male and female flowers are borne by

different plants

D. Anthers and stigma are placed at

different positions to encourage cross

pollination.

Answer: A

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584. Germ pores in the polllen grains are regions

A. That can withstand high temperature,

strong acids and alkalies

B. Through which sperms are released into

the female gametophyte

C. Which are made of lignin and suberin

D. Which lack sporopollenin.

Answer: D

585. Perisperm is found in

A. Black pepper

B. Wheat

C. Maize

D. Groundnut.

Answer: A

586. Which of the following finds application in

hybrid seed industry

A. Apomixis

B. Parthenocarpy

C. Parthenogenesis

D. Polyembryony.

Answer: A

587. An angiospermic male plant with 24 chromosomes in its pollen mother cells is crossed with female plant bearing 24 chromosomes in its root cells . What would be the ploidy of embryo and endosperm respectively formed after this cross ?

A. 24 and 48

B. 24 and 24

C. 48 and 72

D. 24 and 36





588. Cross pollination doen not occur in

- A. Allogamous flowers
- B. Geitonogamous flowers
- C. Clestogamous flowers
- D. Chasmogamous flowers.

Answer: C

589. Select the correct statements from the following I. Endosperm is generally triploid in angiosperms, II. All angiosperms have monosporic and endosporic embryo sac, III. Angiosperms are characterised by double fertilization, IV. All angisoperms show indirect pollination and siphonogamy

A. I,II and III

B. II, III and IV

C. I, III and IV

D. I, II, III and IV

Answer: C



590. In angiosperms, formation of two male gametes from a pollen grain involves- divisions

A. One mitotic and one mitotic

B. Two meiotic and two mitotic

C. Only two mitotic.

D. Only two meiotic.

Answer: C



591. Which of the following features is/are common to both wind and water pollinated flowers I. Pollen grains are long and ribbon-like, II. Stigma is large and feathery, III. Flowers are not colourful, IV. Flowers are not colourful

A. III and IV

B. II and III

C. I and II

D. II

Answer: A



592. Select the plants pollinasted by water (a) Water Hyacinth (b) Zostera (c) Amorphophallus (d) Vallisneria (e) Yucca. A. a,d and e

B. b and e

C. b and d

D. b,c,d

Answer: C

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593. Which one of the following statements is

correct

A. Mango is a parthenocarpic fruit

B. A proteinaceous aleurone layer is

present in maize grain

C. A sterile pistil is called staminode

D. The seed in grasses in not endospermic.

Answer: B

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594. Pollen tablets available in market are for

- A. Breeding programme
- B. Supplementary food
- C. Ex situ conservation
- D. In vitro fertilization

Answer: B

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595. How many haploid nuclei are present in a

mature pollen grain

A. One

B. Two

C. Three

D. Four.

Answer: B

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596. What is the correct sequence in the formatio of female gametophyte in angiosperms?



D. Megaspore mother cell ightarrow megaspore

tetrad ightarrow megaspore ightarrow nucellus ightarrow

female gametophyte.

Answer: C

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597. Primary endosperm nucleus is formed by

the fusion of

A. Two polar nuclei + One synergid cell

nucleus

B. One polar nucleus + One antipodal cell

nucleus + One synergid cell nucleus

- C. Two polar nuclei + one male gamete nucleus.
- D. Two antipodal cell nuclei + one male

gamete nucleus.

Answer: C

598. Nonalbuminous seed occurs in

A. Castor

B. Wheat

C. Pea/Groundnut

D. Maize.

Answer: C

599. Papaya is a dioecious plant. This condition

prevents

A. Both autogamy and geitenogamy

B. Only autogamy

C. Only xenogamy

D. Geitonogamy.

Answer: A

600. Seeds without fertilization is obtained

from

A. Apomixis

B. Dormancy

C. Parthenocarpy

D. Polyembryony.

Answer: A

601. The 2000 years old seeds excavated from

King Horod's place in dead sea belongs to

A. Strobilanthus kunthiana

B. Phoenix dactylifera

C. Lupinus arcticus

D. Dendrocalamus strictus.

Answer: B

602. How many chromosomes are present in each of the following with respect to Maize plant respectively (a) Leaf epidermal cell (b) Antipodal cell (c) Endosperm cell (d) Generative cell (e) Egg cell (f) Megaspore (g) Microspore mother cell

A. 10, 20, 10, 10, 10, 20, 30

B. 20, 10, 30, 10, 10, 10, 20

C. 20, 10, 10, 10, 20, 30, 10

D. 30, 10, 20, 10, 20, 10, 10.
Answer: B



603. In an angiosperm, the number of microspore mather cells involved in production of 120 male gametes is

A. 30

B. 60

C. 15

D. 40

Answer: C



604. Match the columns and find the correct

combination

| | | | and anemophily |
|--------------|----------------|-------|------------------|
| (e) | Sotanum | (v) | Entomophily |
| | | | entomophily |
| (d) | Abutilon | (iv) | Protogyny and |
| | | | sterility |
| | | | tion and self |
| (c) | Water Hyacinth | (iii) | Cross pollina- |
| (b) | Commelina | (ii) | Self pollination |
| (a) | Fisum sativum | (1) | and cleistogamy |
| , | | | O |

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605. Match the coloumns and find the correct

option

| (a) Parthenocarpy | (i) | Lodoicea |
|------------------------------|-------|----------|
| (b) Polyembryony | (ii) | Banana |
| (c) Largest seed | (iii) | Mango |
| (d) Seeds from Arctic tundra | (iv) | Orchid |
| | (v) | Lupinus |

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

A. Microspore mother cell and egg cell

B. Secondary nucleus and endosperm

C. Polar nucleus and secondary nucleus

D. Endosperm and antipodal cells.

Answer: B

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607. Which is not a correct explanation of cross pollination

A. Pollen grains of malr flowers are transferred to stigma of female flowers B. Pollen grains are transferred from one flower to another flower of another plant of the same species C. Pollen grains are transferred from one flower to another flower situated on the same species D. Pollen grains of one flower are transferred to the stigma of the same flower.

Answer: D

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608. Monocotyledonous/wheat seed has one large shield-shasped cotyledon known as

A. Coleoptile

B. Scutellum

C. Aleurone layer

D. Coleorhiza.

Answer: B

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609. What is the function of germ pore

A. Release of malr gametes

B. Emergence of radicle

C. Absorption of water for seed

germination

D. Initiation of pollen tube.

Answer: D

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610. Name the plant shows adventive embryonic cells

A. Sunflower and mango

B. Lemon and Maize

C. Citrus and Mango

D. Lemon and Plams.

Answer: C

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611. Pollen grain develops from ……………

of anther

A. Epidermis

B. Endothecium

C. Tapetum

D. Sprorogenous tissue.

Answer: D

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612. In angiosperms during development of embryo, the suspensor cell develops from

A. Oospore

B. Integument

C. Endosperm

D. Cotyledon.

Answer: A

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613. Anemophily is NOT observed in

A. Maize

B. Jowar

C. Sugarcane

D. Salvia.

Answer: D



614. If there are 1280 microspores in a tetralocular anther. How many microspore mother cells will be there in its each pollen chamber

A. 80

B. 160

D. 1280

Answer: A

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615. Large Stout, nocturnal flowers producing copious nectar and emitting fermenting fruity odour are the adaptation for

A. Entomophily

B. Ornithophily

C. Chiropterophily

D. Anemophily.

Answer: C



616. Environmetal biotic factor that helps in

pollination is

A. Air

B. Water

C. Wind

D. Insects.

Answer: D

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617. Which is not properly matched

A. Exine of pollen grains - Sporopollenin

B. Tapetum - Ubisch bodies

C. Male gametophyte of angiosperms - No

prothalial cells

D. Most common type of ovule -

Orthotropous.

Answer: D

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618. Embryo development from synergid or antipodal cell is known as

- A. Apogamy
- B. Apomixis
- C. Amphimixis
- D. Apospory.

Answer: A

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619. Protein is stored in part of pulses

A. Endosperm

B. Cotyledons

C. Pericarp

D. Seed coat.

Answer: B

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620. the aleurone synthesizes and secretes digestive enzymes that hydrolyse nutrients stored in the endosperm in the presence of

A. Auxin

- B. Gibberellin
- C. Cytokinin
- D. Ethylene.

Answer: B

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621. Banana is an example of :

A. Parthenocarpy

- B. Apomixis
- C. Parthenogenesis
- D. Polyembryony.

Answer: A

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622. Egg of female gametophyte is accompained by

A. Antipodal cell

- B. Synergids
- C. Definite nucleus

D. Tube nucleus.

Answer: B

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623. How many meiotic divisions are required

to produce 1000 pollen grains

A. 200

B. 250

C. 500

D. 1000

Answer: B

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624. Caruncle is derived from

A. Peduncle

B. Cotylendon

C. Outer integument

D. Inner integument.

Answer: C



625. Parthenogenesis is

A. Formationn of egg without fertilization

B. Formation of sygcrgids without

fertilization

C. Formation of fruit without ferilization

D. Formation of fruit without pollination.

Answer: C

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626. "Isobilateral type" of microspore arrangement in tetrad is present in

A. Solanum nigrum

B. Zea mays

C. Cassia fistula

D. Vigna radiata.

Answer: B

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627. Fibrous bands develop in the cells of

anther wall layer known as

A. Epidermis

B. Endothecium

C. Middle layers

D. Tapetum.

Answer: B



628. Consider the following statements and choose the correct option (a) Ovule is attached to the placenta by means of a stalk called filament (b) Ovule fuses with the stalk in the region called hilum (c) The two protective

envelopes of the ovule are called integuments

(d) The small opening in the tip of ovule is

called germ pore

A. a and d

B. a and c

C. b and d

D. b and c.

Answer: D

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629. Consider the following statements with respect to the flowering plants and choose the correct option (a) Pollen grains represent the male gametes (b) Functional megaspore develops innto embryo sac that represents the female gamete (c) Transfer of pollen grains from anther to stigma of different plant is known as xenogamy (d) Transfer of pollen grains from anther to stigma of another flower of the same plant is known as geitonogamy

A. a and b

B. a and c

C. a and d

D. c and d.

Answer: D

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630. Which of the following is false in angiosperms

A. Egg cell - haploid

B. Megaspore - dipoloid

C. Pollen grain - haploid

D. Synergid - haploid.

Answer: B

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631. In angiosperms, microsporogenesis and

megasporogeneis

A. Occur in anthers

B. Form gametes without further divisions

C. Involve meiosis

D. Occur in ovule.

Answer: C

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632. Male gametophyte in angiosperms produces:

A. Two sperms and a vegetative cell

B. Single sperm and a vegetative cell

C. Single sperm and two vegetative cells

D. Three sperms.

Answer: A

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633. Which pollinator is not attracted by scent

of

A. Bird

B. Moth

C. Bat

D. Butterfly.

Answer: A

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634. 32 chromosomes are present in the green leaf of Onion. When meiosis takes place to produce gametes after fertilization how many chromosomes will be there in triploid nucleus A. 32

B. 16

C. 48

D. 9

Answer: C

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635. "Pollen grains are protected by a mucilaginous covering and having a specific

gravity." This is characteristic of which type of

pollination

A. Anemophily

B. Entomophily

C. Hydrophily

D. Zoophily.

Answer: C

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636. Choose the correct options for statements P, Q, R in relevance to grass Statement P .Flowers possess attractive colour anf fragrance Statement Q . Pollen grains are small, dry and light in weight Statement R . Grass is air pollinated plant

A. Both P and Q are true, R is correct explanation of Q

B. P is true and Q is false, R is correct explanation of P
C. P is false and Q is true, R is correct

explanation of Q

D. Both P and Q are false, R has no relation

with P and Q.

Answer: C

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637. In which type of development in dicotyledoneae, basal cell forms suspensor

A. Solanad type

- B. Caryphylloid type
- C. Crucifer type
- D. Asterod type.

Answer: A



638. Which is false

A. Pro-ubisch bodies when coated coated with sporopollenin become ubisch bodies

B. The nucleus of tapetal cell divides by

mitosis and endomitosis

C. The fibrous thickening of endothecium is

made of suberin.

D. None of the above.

Answer: C

639. Which of the following statement is correct

A. Chasmogamous flowers always exhibit
geitonogamy
B. Cleistogamous flowers always exhibit
autogamy
C. Chasmogamous flowers never exhibit

autogamy



autogamy and geitoogamy.

Answer: B

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640. In a dithecouus anther, each pollen sac

contains 1000 MMC. Which is the total number

of pollen grains produced by anther

A. 4000

B. 8000

C. 16000

D. 32000

Answer: C

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641. What is not a post fertilization event

A. Gametogenesis

B. Embryogenesis

C. Fruit formation

D. Seed formation.

Answer: A



642. The correct sequence of events during

double fertilization of angiosperms is

A. Triple fusion, syngamy, porogamy

B. Syngamy, triple fusion, porogamy

C. Porogamy, syngamy, triple fusion

D. Syngamy, porogamy, triple fusion.

Answer: C

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643. In an angiosperm, a female plant having

2n = 24 is crossed with a male plant having 2n

= 12. What will be the chromosome number of

endosperm

A. 12

B. 18

C. 24

D. 30

Answer: D



644. Which of the following wall layer anther

shows fibrous thickening (of callose)

A. Epidermis

- B. Tapetum
- C. Middle layer
- D. Endothecium.

Answer: D



645. Which of the following in embryo sac of

angiosperms shows filiform appratus

- A. Antipodals
- B. Polar nuclei
- C. Egg
- D. Synergids.

Answer: D



646. Which is a character of Castor plant to

avoid autogamy

A. Unisexuality

B. Porogamy

C. Protandry

D. Heterostyly.

Answer: A

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647. Which of the following is the wrong match between the plant and its character for adaptation of cross pollination

A. Zosters - Bright coloured flowers with

nectar

B. Bougainvillea - Petaloid bracts

C. Passion Flower - Corona

D. Adansonia - Copious nector.

Answer: A

648. Assertion (A). Tageticula and Amorphophallus cannot complete their life cycle without each other Reason (R). The moth deposits its eggs in the locule of ovary and the flowers which are many feet height in turn get pollinated by moth. The larvae come out of the eggs as the seeds start developing.

A. A and R are true and R is the correct explanation of A

B. A and R are true and R is not correct

explanation of A

C. A is true, R is false

D. A is false, R is true.

Answer: D

649. Match the ovules with plants

- (a) Micropyle of ovule (i) Dolichos close to funiculus as a result of 180° curvature
- (b) Micropyle, chalaza (ii) Loranthus and funiculus of ovule are on the same vertical line
- (c) Body of ovule is (iii) Helianthus placed right angles to funiculus and bends in such a way that micropyle comes towards funiculus
- (d) Ovuls are without (iv) Polygonum integuments

(v) Sphagnum

A. a-iii,b-iv,c-ii,d-v

B. a-iv,b-v,c-l,d-iii

C. a-v,b-iv,c-iii,d-ii

D. a-iii,b-iv,c-I,d-ii

Answer: D

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650. A plant produced 50 flowers. Ovary of each flower has 50 ovules. How many fruits and seeds are produced by that plant respectively

A. 50, 50

B. 50, 100

C. 50, 2500

D. 2500, 2500.

Answer: C

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651. Identify the correct pair of statements (i) White kernel of Coconut is a free nuclear endosperm (ii) In dioecious plants, autogamy is prevented but geitonogamy occurs (iii) Cleistogamous flowers are always self

pollinated (iv) Castor is an endospermic seed.

A. i, ii

B. iii, iv

C. ii, iv

D. ii, iii.

Answer: B



652. Which is not part of anther wall

A. Epidermis

B. Middle layers

C. Endothecium

D. Nucelus .

Answer: D

653. Consider the following statements with respect to pollen grains (a) Exine is thin, continuous layer made up of cellulose and pectin (b) Hard outer layer called exine is made of sporopollenin (c) Sporopollenin is present in germ pores (d) Exine exhibits a fascinating array of patterns and designs. Of the above statements

A. a and b alone are correct

B. a and c alone are correct

C. b and d alone are correct

D. b and c alone are correct.

Answer: C

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654. Which one of the following statements is not true

A. Stored pollen in liquid nitrogen can be

used in the crop breeding programme

B. Tapetum helps in dehiscence of anthers

C. Exine of pollen grains is made of

sporopollenin

D. Pollen grains of many species cause

severe allergies.

Answer: B

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655. The coconut water from tender coconut

represents

A. Free nuclear endosperm

- B. Free nuclear proembryo
- C. Fleshy mesocarp
- D. Endocarp.

Answer: A



656. Which of the following statements is not

correct

A. Some reptiles have also been reported as pollinators in some plant species B. Pollen grains of many species can germinate on the stigma of a flower but only one pollen tube of the same species grows into style C. Insects that consume pollen or nectar without bringing about pollinationn are called pollen/nectar robbers

D. Pollen germination and pollen tube growth are regulated by chemical components of pollen interacting with those of pistil.

Answer: B

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657. Seed formation without fertilization in flowering plants involves the process of

- A. Apomixis
- **B.** Sporulation
- C. Budding
- D. Somatic hybridisation.

Answer: A



658. Match the columns and find the correct

option

Ι

- (a) Pistils fuse together
- (b) Formation of gametes
- (c) Hyphae of higher ascomycetes
- (d) Unisexual female flower

Π

- (i) Gametogenesis
- (ii) Pistillate
- (iii) Syncarpous
- (iv) Dikaryotic

A. a-iii,b-I,c-iv,d-ii

- B. a-iv,b-iii,c-I,d-ii
- C. a-ii,b-l,c-iv,d-iii
- D. a-I,b-ii,c-iv,d-iii

Answer: A



659. In majority of angiosperms

A. A small central cell is present in the

embryo sac

- B. Egg has a filiform apparatus
- C. There are numerous antipodals cells
- D. Reduction division occurs in megaspore

mother cell.

Answer: D

660. Pollination in water by hyacinth and water lily is brought about by the agency of:

A. Bats

B. Water

C. Insects or wind

D. Birds .

Answer: C

661. the ovule of an angiosperm is technically

equivalent to

A. Megaspore

B. Megasporangium

C. Megasporophyll

D. Megaspore mother cell.

Answer: B

662. Identify the parts labelled a, b, c and d

and select the correct option



A. a-scutellum, b-epiblast, c-coleoptile, d-

coleorhiza

B. b-coleorhiza, c-coleoptile, d-epiblast

C. a-scutellum, b-coleoptile, c-coleorhiza, d-

epiblast

D. a-epiblast, b-coleoptile, c-coleorhiza, d-

scutellum.

Answer: C

663. Match the columns and find the correct

options

| | П |
|---------------------------|--|
| (a) Parthenocarpy | (i) Seed formation |
| | without fertilization |
| (b) Polyembryony | (ii) More than one embryo in same seed |
| (c) Apomixis | (iii) Seedless fruits without fertilization |
| (d) Somatic embryogenesis | (iv) Embryo develops from a somatic cell |

A. a-iv,b-ii,c-iii,d-i

B. a-iii,b-ii,c-I,d-iv

C. a-I,b-iv,c-iii,b-ii

D. a-ii,b-iii,c-I,d-iv.



endothecium.
| B. a-endothecium, | b-connective, | c-pollen |
|-------------------|---------------|-----------|
| grains | | |
| C. a-pollen grans | s, b-connec | ctive, c- |
| endothecium | | |
| D. a-endothecium, | b-pollen g | rains, c- |
| connective. | | |
| | | |

Answer: A

665. Assertion : Endothecium layer of anther wall plays an important role in dehiscence of anther Reason : The presence of fibrous bands and defferential expansion of inner and outer tangential walls of endothecial cells cause dehiscence of anther.

A. Point out if both are true with reason

being correct explanation.

B. both true but reson is not correct

explanation

C. assertion true but reason is wrong

D. both are wrong

Answer: A

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666. After double fertilization, a mature ovule

has

A. One diploid and one haploid cell

B. One diploid and one triploid cell

C. Two haploid and one triploid cell

D. One haploid and one triploid cell.

Answer: B

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667. Fowers which have single ovule in the ovary and are packed into inflorescence are usually pollinated by

A. Water

B. Bee

C. Wind

D. Bat.

Answer: C

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668. Functional megaspore in an angiosperm

develops into

A. Ovule

B. Endosperm

C. Embryo sac

D. Embryo.

Answer: C

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669. A dioecious flowering plant prevents both

A. Autogamy and xenogamy

B. Autogamy and geitonogamy

C. Geitonogamy and xenogamy

D. Cleistogamy and xenogamy.

Answer: B

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670. Attractants and reward are required for

A. Anemophily

B. Entomophily

C. Hydrophily

D. Cleistogamy.

Answer: B

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Check Your Grasp

1. Diplospory leads to

A. Adventitive embryony

B. Recurrent agamospermy

C. Nonrecurrent agamospermy

D. Parthenogamy.

Answer:



2. What is pre-requisite for self pollination

A. Chasmogamy

B. Homogamy

C. Absence of pollenkitt.

D. Absence of nectar.

Answer:

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3. Hypohydrophily occurs in

A. Ceratophyllum

B. Lemna

C. Vallisneria

D. Nelumbium.





- 4. Butterflies pollinate
 - A. Bluish flowers
 - **B. Violet flowers**
 - C. Reddish flowers
 - D. Purple flowers.





5. Moth Pronuba/Tegaticula is dependent for

its survival on plant

A. Magnolia

B. Erythrina

C. Adhatoda

D. Yucca.

Answer: D





6. Mulberry is pollinated by

A. Wind

B. Water

C. Insects

D. Birds.

Answer:

7. Crows help pollination of

A. Agave

B. Bombox

C. Erythrina

D. Bignonia.

Answer: B



8. Jasmine shows

A. Herkogamy

B. Dimorphic heterostyly

C. Trimorphic heterostyly

D. Dicliny.

Answer:

9. A flower with over one thousand stamens is

A. Bignonia

B. Bombox

C. Cannabis

D. Adansonia.

Answer:

10. In Kalmia

A. Anthers are exposed

B. Stigma is exposed

C. Anthers are covered by corolla packets

D. Both B and C

Answer:

11. Above ground cleistogamous flowers are

formed late in the season in

A. Balsam

B. Viola

C. Oxalis

D. All the above.

Answer: D

12. Monosporangiate anther occurs in

A. Arceuthobium

B. Rafflesia

C. Malva

D. Citrus.

Answer:

13. Which one produces callose for breaking plasmodesmal connections among microspore mother cells

A. Microspore mother cells

B. Sporogenous cells

C. Tapetum

D. Middle layers.

Answer:

14. Endothecial cells of anther has fibrous thickenings of

A. Suberin

B. Cellulose.

C. Cutin

D. Lignin.

Answer:

15. Discontinuous layers in the wall of pollen

grain are

A. Absent

B. Foot layer

C. Beculate layer

D. Baculate layer and tectum.

Answer:

16. Pollen tube is covered by

A. Exine only

B. Plasmalemma only

C. intine only

D. Exine and intine.

Answer:

17. In molva/Althaea a single pollen grain

produces pollen tube

A. 1

B. 2

C. .4-6

D. .10-14

Answer:

18. An indehiscent integumented megasporan-

gium is found in

A. Spermatophytes

B. Angisoperms only

C. Gymnosperms only

D. Both gymnosperms and angiosperms

Answer:

19. In ovule, cuticle is present over

A. Outer part of integument

- B. Outer part of nucellus
- C. Surface of both nucellus and

integuments

D. None of the above.

Answer:

20. A diploid structure present in the embryo sac is

- A. Oosphere or egg
- B. Secondary nucleus
- C. Synergids
- D. Antipodal cells.

Answer:

21. Type of ovule present in Opuntia is

A. Camphylotropus

B. Amphitropous

C. Circinotropous

D. Hemitropous.

Answer:

22. Endothelium develops from

A. Nucellus

B. Nucellus surrounding embryo sac

C. Tissue near chalaza

D. Innar part of integument.

Answer:

23. Siphonogamy was discovered by

A. Strasburger

B. Amici

C. Nawaschin

D. Guignard

Answer:

24. In dicot embryo hypophsis is

A. Termical cell of suspensor that grows to

push the embryo downwards

B. Middle cell of suspensor that grows to

push the embryo downwards

C. Last cell of suspensor that forms radicle

D. Part of embryo that gives rise to radicle.

Answer: C



25. Embryo without plumule, radicle and cotyledon is formed in

A. Orchids

B. Orobanche

C. Utricularia

D. All the above.

Answer:

26. In angiosperm, polyembryony was first reported by:

A. Leeuwenhoek

B. Strasburger

C. Hofmeister

D. Hanstein.

Answer:

27. In Areca, the endosperm is

A. Soft and ruminate

B. Fleshy and ruminate

C. Hard and smooth

D. Hard and ruminate.

Answer:



28. Xenia was discovered by

A. Swingle

B. Focke

C. Guignard

D. Amici.

Answer:

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29. the smallest pollen grain occure in

A. Myosotis

B. Mirobilis

C. Zostera

D. Eucalyptus.

Answer:

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Brain Teasers

1. A structure present in the ovule as well as

eggs of birds is
A. Integument

- B. Micropyle
- C. Chalaza
- D. Hilum.

Answer: C



2. A plant in which fertilization occurs after the

shedding of seed is

A. Orchis

B. Ginkgo

C. Viscum

D. Iris.

Answer: B

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3. In ovule, exostome is

A. Area just outside the micropyle

B. Area at the tip of nucellus

C. Part of micropyle enclosed by inner

integument

D. Part of micropyle enclosed by outer

integument.

Answer: D

4. Group of specialized thickened nucellar cells

between embryo sac and chalaza is

A. Hypostase

B. Epistase

C. Tapetum

D. Endothelium.

Answer: A

5. Hypostase is meant for providing

A. Support to embryo sac

B. Nourishment to embryo sac

C. Breaking continutiy with parent

D. Partway for growth of future embryo.

Answer: B

6. A group of specialised nucellar cells between embryo sac and micropyle is

A. Metastase

B. Mesostase

C. Epistase

D. Hypostase.

Answer: C

7. Sasa paniculata contains a large number of

antipodal cells. The number is

A. 15

B.85

C. 150

D. 300

Answer: D

8. Antipodal cells enlarge tremendously in

A. Sasa

B. Caltha

C. Aconitum

D. Both B and C.

Answer: D

9. Which one develops from funicle of base of

ovule

A. Sarcotesta

B. Aril

C. Arillode

D. Operculum.

Answer: B

10. Which one develops from exostome

A. Arillode

B. Operculum

C. Sarcotesta

D. Endothelium.

Answer: A

11. In tenuinucellate ovules, the mucellus may break down. The nourishment is then provided by

A. Hypostase

B. Epistase

C. Endothelium

D. Arillode.

Answer: C

12. Endothelium develops from

A. Endostome

B. Exostome

C. Chalaza

D. Inner layer of integument.

Answer: D

13. Middle layers of pollen sac wall are absent

in

A. Compositae

B. Lemnaceae

C. Nahadaceae

D. Both B and C.

Answer: D

14. Growth of the pollen tube is

A. Apical

B. Intercalary

C. Basal

D. Intermittent.

Answer: A

15. The apical growing region of pollen tube is

called

A. Growing zone

B. Cap block

C. Non-vacuolate region

D. Organelle region.

Answer: B

16. Functional part of pollen tube is separated

from the rest by

A. Vacuoles

B. Callose plugs

C. Septa

D. Both B and C.

Answer: B

17. Pollen tube cytoplasm is like any other

living cell in showing

A. Callose

B. Large vecuoles

C. Cytoplasmic streaming

D. Mucilage vesicles.

Answer: C

18. Male nucleus of flowering plant fuses with

the egg nucleus in

A. Promitotic phase

B. Mitotic phase

C. Intermediate state

D. All the above.

Answer: D

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19. Which one is true of male gamete of angiosperms

A. Large nucleus

B. Thick sheath of cytoplasm

C. Then sheath of cytoplasm devoid of cell

organelles

D. Both B and C.

Answer: A



20. Heterofertilization is

A. Fusion of two male gametes with different structures B. Fusion of egg with secondary nucleus C. Fusion of male gamete of one pollen tube with oosphere and male gamete of another pollen tube to secondary nucleus

D. Fusion of one of the synergids with

oosphere.

Answer: C



21. Formation of additional embryo from part

of the same embryo or embryo sac is

A. True polyembryony

B. False polyembryony

C. Adventitive polyembryony

D. Haploid-diploid polyembryony.

Answer: A

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22. In false polyembryony there is

A. No additional embryo but only an

artifact

B. The additional embryo is haploid

C. There are two or more embryo sacs

D. An embryo sac contains two or more

oospheres.

Answer: C

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23. Nymphaea shows polyembryony

A. Cleavage polyembryony

B. Adeventitive budding polyembryony

C. Endosperm polyembryony

D. Both A and B.

Answer: A

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24. Endosperm polyembryony is type of

A. Adventitive polyembryony

B. True polyembryony

C. False polyembryony

D. Gametophytic polyembryony.

Answer: B

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25. In sporophytic polyembryony, the

additional embryos develops from

A. Nucellus

B. Integument

C. First formed embryo

D. All the above.

Answer: D

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26. Which one is a gametophytic polyembryony?

A. Endosperm polyembryony

B. Adeventitive polyembryony

C. Antipodal polyembryony

D. Nucellar polyembryony.

Answer: C

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27. Climacteric is

A. Fruit

B. Seed

C. Flowers

D. Critical phase.





28. Climacteric fruit is the one which shows

A. Autochory

- B. High respiratory activity at ripening
- C. Sudden change in colour and taste at

ripening

D. Bothb and c





29. Ethyline is antagonised by

A. Calcium

- B. Carbon dioxide
- C. Silver
- D. Both B and C.

Answer: D



30. A fungus which secretes abscisic acid is

A. Aspergillus

B. Gibberella

C. Cercospore

D. Alternaria.

Answer: C

31. Johnson (1829) discovered

A. Hydrotropism

B. Phototropism

C. Geotropism

D. Photonasty.

Answer: A

32. Geotropism was discovered by

A. Darwin

B. Frank

C. Haberlandt

D. Gercke.

Answer: B



33. Taxis is movement in

A. Single cell

B. Single-celled organism

C. Cell organelles

D. All of above.

Answer: D

34. Closure of lamina in Venus Fly Trap (Dionaea muscipula) after an insect happens to alight over it is

A. Thigmotropism

B. Haptonasty

C. Chemotropism

D. Chemonasty.

Answer: B

35. Trihydroxybenzene, a developer in

photography is popularly called

А. Нуро

B. Pyrogallol

C. Phosphor

D. Autochrome.

Answer: B

36. Pyrogallol is used gas analysis because its

A. Alkaline solution absorbs exygen

- B. Acidic solution absorbs oxygen
- C. Alkaline solution reacts with carbon

dioxide

D. Acidic solution absorbs nitrogen.

Answer: A
37. Pomalin is sprayed over apple to increase fruit size. It is

A. Auxin

B. Mixture of auxin and gibberellin

C. Mixtureof auxin and cytokinin

D. Mixture of cytokinin and gibberellin.

Answer: B

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