



BIOLOGY

BOOKS - DINESH PUBLICATION

ENGLISH

NO IDEA

Mcq

1. Which is agamospermy

A. Development of embryo without gametic union

B. A type of sexual reproduction in which there is no differentiation 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



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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



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5. Agamospermy produces new plant through the formation of

(a) Bulbil

(b) Asexual embryo

(c) Gemma

(d) Parthenocarpy

A. Bulbil

B. Asexual embryo

C. Gemma

D. Parthenocarpy

Answer: B



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6. Recurrent agamospermy is seen in

- A. Nucellar
- B. Integumental
- C. Haploid
- D. Diploid

Answer: C



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7. Apospory is direct formation of

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

Answer: A



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8. Diplospory is development of embryo from

A. Nucellus

B. Integument

C. Megaspore mother cell

D. Megaspore

Answer: C



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9. Union of two gametes of one sex is known as

A. Apogamy

B. Parthenoapogamy

C. Parthenogamy

D. Parthenogenesis.

Answer: C



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10. Apospory is direct formation of

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

Answer: B



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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. Vegetative propagation

B. Amphimixis

C. Agamospermy

D. Parthenogamy.

Answer: C



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

A. Diploid megaspore mother cell

B. Diploid integument cell

C. Diploid nucellar cell

D. All the above

Answer: A



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14. Which is agamospermy

A. Layering

B. Grafting

C. Adventivite embryony

D. All the above

Answer: C



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15. An embryo may sometimes develop from any cell of embryo sac other than egg. It is termed as

A. Apospory

B. Diplosory

C. Apogamy

D. Parthenogenesis.

Answer: C



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16. Define pollination.

A. Shedding of pollen from anthers

B. Similar to fertilization of animals

C. Transfers of pollen from anthers to
stigmas

D. Transfers of pollen from anthers to
ovules.

Answer: C



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

A. same flower

B. Same or different flower of the same plant

C. same or genetically similar flower of the same or other plant

D. Different flowers of the same plant.

Answer: C



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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



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19. Passage of pollen grains from anther of one flower to stigma of other flower is

- A. Allogamy
- B. Chasmogamy
- C. Xenogamy
- D. Geitonogamy

Answer: A



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20. Xenogamy is

- A. (a) Autogamy
- B. (b) Cross Pollination
- C. (c) Self pollination
- D. (d) Cleistogamy

Answer: B



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21. Pollination occurring in closed flowers is



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22. In Wheat, pollination is

- A. Wind pollination
- B. Insect pollination
- C. Bud pollination
- D. Herkogamy.

Answer: A



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23. A mechanism to prevent cross pollination is

A. Protogyny

B. Protandry

C. Heterostyly

D. Cleistogamy.

Answer: D



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24. Continued self pollination results in:

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

Answer: D



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25. Transfer of pollen grain from anther to stigma of another flower of the same plant is called as

A. Geitonogamy

B. Xenogamy

C. Dichogamy

D. Dicliny.

Answer: A



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26. Cleistogamous flowers are

(a) Wind pollinated

(b) Self pollinated

(c) Cross pollinated

(d) Insect pollinated

A. Wind pollinated

B. Self pollinated

C. Cross pollinated

D. Insect pollinated.

Answer: B



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27. Chasmogamy is pollination in

A. Bud condition

B. Closed flowers

C. Open flowers

D. Unrelated flowers.

Answer: C



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28. During self pollination of *Mirabilis*

(a) Flowers are closed

(b) Flowers are open and growing style brings the stigma in contact with anthers

(c) brings anthers in contact with stigma

(d) Style bends to brings stigma in contact with anthers

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.

Answer: C



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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

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 is

- 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



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35. Hay fever is 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.

Answer: C



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38. Pollination by water is

A. Anemochory

B. Hydrophily

C. Hydrochory

D. Anemophily.

Answer: B



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39. Pollination by water occurs in

A. Ceratophyllum

B. Zostera

C. Lemna

D. Both A and B

Answer: D



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40. In Vallisneria

A. Hydrophilous

B. Cleistogamous

C. Anemophilous

D. Entomophilous.

Answer: A



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41. The pollination in Vallisneria is

A. Epihydrophilous

B. Hypohydrophilous

C. Subhydrophilous

D. Both B and C

Answer: A



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42. Plant of Vallisneria is

A. Monoecious

B. Dioecious

C. Polygamous

D. intersexual.

Answer: B



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43. In 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 stalks

C. only the male flowers 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



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45. Colour of night blooming flowers is usually

A. Violet to purple

B. Red

C. Yellow

D. Whitish.

Answer: D



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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. Entomophily

B. Malacophily

C. Myrmecophily

D. Chiropterophily.

Answer: A



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49. Characteristic of entomophilous plants is

A. long styles

B. exerted stamens

C. long stigma

D. Pollenkitt.

Answer: D



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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



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52. Hovering birds pollinate

A. Bignonia

B. Peepal

C. Magnolia

D. Bougainvillea.

Answer: A



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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



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56. Faster and better growth of pollen from other plants than the pollen from the same plant is

A. Self incompatibility

B. Dichogamy

C. Monocliny

D. Prepotency.

Answer: D



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57. Lever mechanism or turn pipe mechanism of pollination is found 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



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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 stamens

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.

Answer: D



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63. Pollination performed by bats is

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

Answer: D



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64. In *Salvia*, pollination occurs through the agency of

A. insects

B. bats

C. Ants

D. Snails.

Answer: A



65. Yucca 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



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67. The phenomenon of maturation of anthers earlier than the stigma of the same flower is

- A. Dicliny
- B. Protandry
- C. Herkogamy
- D. Heterostyly.

Answer: B



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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



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69. The phenomenon of floral parts acting as a barrier to self pollination is

A. Heterostyly

B. Dichogamy

C. Dicliny

D. Herkogamy.

Answer: D



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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



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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



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72. Entomophily is pollination by

A. Insects

B. Bats

C. Birds

D. Ants.

Answer: A



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73. Pollination mechanism of Calotropis is

- A. Lever mechanism
- B. Turn- pipe mechanism
- C. Translator mechanism
- D. Siphon mechanism.

Answer: C



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74. Barrier to avoid self pollination between stamens and pistils is

A. Heterostyly

B. Herkogamy

C. Dichogamy

D. Dicliny.

Answer: B



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75. Pollinia are sacs having

A. Anther lobes

B. Pollen grains

C. Glands for secreting pollenkit.

D. Air for making the pollen grains light.

Answer: B



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76. Embryology is

A. Development of embryo only

B. Mode of gametophyte formation

C. Sporogenesis and fertilization

D. Sporogenesis, fertilization and
embryogenesis.

Answer: D



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77. Embryogeny is branch of embryology dealing with

A. Nutrition of embryo

B. Development of embryo

C. Formation of embryo

D. Conversion of embryo to adult plant

Answer: B



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78. Who is author of book "Introduction to the Embryology" of Angiosperms

A. P. Maheshwari

B. Birbal Sahni

C. T.S. Mahabale

D. J.S. Singh

Answer: A



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79. In embryophytes, sporogenesis involves

A. Microsporogenesis and megasporogenesis

B. Formation of diploid spores

C. Formation of haploid spores

D. Formation of mitospores.

Answer: C



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80. Microsporogenesis occurs

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

Answer: C



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81. Development of microsporangia in anther is from a

A. A single cell-eusporangiate

B. A single cell-leptosporangiate

C. Group of hypodermal cell-leptosporangiate

D. Group of hypodermal cells-eusporangiate.

Answer: D



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82. Anther is generally

- A. Tetrasporangiate
- B. Bisporangiate
- C. Trisporangiate
- D. Monosporangiate.

Answer: A



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83. Microsporangial initial of an anther is

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

Answer: B



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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



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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



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86. Which one of the following is fibrous layer

A. Middle layer

B. Endothecium

C. Tapetum

D. Endostomium.

Answer: B



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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



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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



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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



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90. Tapetum present in the microsporangial wall occurs between

- A. Epidermis and endothecium
- B. endothecium and middle layers
- C. Epidermis and middle layers
- D. Middle layers and sporogenous tissue.

Answer: D



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91. Tapetal cells show

A. Meiosis

B. Mitosis

C. Endomitosis

D. Endomitosis and endopolyploidy.

Answer: D



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92. Tapetal cells are

A. Uninucleate

B. Binucleate

C. Multinucleate

D. Enucleate.

Answer: C



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93. Tapetal cells of stamens 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.

Answer: B



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98. Ubisch bodies take part in development of

- A. Pollen grains
- B. Syncytium
- C. Microgametophyte
- D. Microsporangium.

Answer: A



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99. In dicots the most common pollen tetrad is

A. Isobilateral

B. Tetrahedral

C. Linear

D. Decussate.

Answer: B



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100. In monocots, the most common pollen tetrad is

A. Isobilateral

B. Tetrahedral

C. Linear

D. T-shaped or decussate.

Answer: A



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101. Pollen tetrad of *Aristolochia elegans* is

- A. Decussate or T- shaped
- B. Linear or isobilateral
- C. Tetrahedral
- D. Any of the above.

Answer: D



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102. Compound pollen grains do not occur in

A. Calotropis

B. Orchids

C. Juncus or Cryptostegia

D. Asclepias

Answer: C



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103. Pollinia occur in

A. Milkweeds and orchids

B. China Rose

C. Radish

D. Sunflower.

Answer: A



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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.

Answer: A



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105. A translator consists of

A. A pollinium, a caudicle and a corpusculum

B. Two pollinia, two caudicles and two corpuscula

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 tapetum

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) Endothelial cells

(c) Pollen mother cells

(d) Stomium cells

A. Tapetal cells

B. Endothelial 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



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112. Intine 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 made up of

- A. Callose
- B. Pecto - cellulose
- C. Ligno - cellulose
- D. Sporopollenin.

Answer: D



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

A. Lignocellulose

B. Sporopollenin

C. Pectocellulose

D. Pectolignin.

Answer: B



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115. Sporopollenin is chemically:

A. Homopolysaccharide

B. Heteropolysaccharide

C. Protein

D. Fatty substance.

Answer: D



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116. Exine is differentiated into

A. Foot layer and becculate layer

B. Foot layer, becculate layer, tectum and endexine

C. Ektexine and endexine

D. Both B and C

Answer: D



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

A. Foot layer

B. Tectum

C. Tectum and becculate layer.

D. Foot layer and baculate layer.

Answer: C



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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



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119. Monocot pollen grains are generally

A. Monocolpate

B. Bicolpate

C. Tricolpate

D. Multicolpate.

Answer: A



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120. Dicot pollen grains are commonly

A. Monocolpate

B. Bicolpate

C. Tricolpate

D. Multicolpate.

Answer: C



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121. A yellow sticky substance present on the surface of entomophilous pollen grains is

A. Sporopollenin

B. Pollinium

C. Lignosuberin

D. Pollenkit

Answer: D



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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. The 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 through funicle
- D. Fertilization with the help of siphon system.

Answer: A



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127. Which one forms the pollen tube

A. Prothallia cell

B. Vegetative cell

C. Generative cell

D. Stalk cell.

Answer: B



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128. Number of prothallial cells present in the male gametophyte of angiosperms is

A. one

B. Two

C. many

D. zero.

Answer: D



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129. Which one forms the male gametes in angiosperms

A. Antheridial cell

B. Body cell

C. Generative cell

D. Tube cell.

Answer: C



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130. Polysiphonous condition is occasionally found in

A. 1 Ranunculaceae

B. 2 Malvaceae and Cucurbitaceae

C. Ranunculaceae and Brassicaceae

D. 4 Poaceae and Palmae.

Answer: B



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131. Growth of pollen tube is

A. Apical

B. Basal

C. Intercalary

D. Diffused.

Answer: A



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132. In a mature 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



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133. Number of nuclei present in the mature male gametophyte of angiosperms is

A. one

B. two

C. Three

D. Many.

Answer: C



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134. Pollen tube was discovered by

A. Camerarius

B. Amici

C. Hofmeister

D. Nemec.

Answer: B



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135. What is true of wall of pollen sac

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

Answer: D



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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.

Answer: B



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137. At the time of anther dehiscence

A. Middle layers develop fibrous

thickenings

B. Epidermic degenerates

C. Endothecium develops fibrous

thickenings

D. Endothecium degenerates.

Answer: C



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138. Fibrous thickening of endothecium are in the form 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



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140. Megasporangium is equivalent to

A. Ovule

B. Embryo sac

C. Ovary

D. Egg apparatus.

Answer: A



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141. Ovule is technically equivalent to

A. Megasporangium

B. Megasporophy11

C. Integumented megasporangium

D. Rolled megasporophy11.

Answer: C



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142. Which condition is more advanced

A. Bitegmic

B. Unitegmic

C. Tritegmic

D. Ategmic.

Answer: B



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143. Ategmic ovule is found in

A. sunflower

B. Chenopodium

C. Olax

D. Junglans.

Answer: C



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144. Ovules are attached to a paranchymatous cushion called

A. Nucellus

B. Obturator

C. Conducting tissue

D. Placenta.

Answer: D



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145. The stalk of ovule is

A. Pedicel

B. Funiculus

C. Petiolule

D. Rechiole.

Answer: B



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146. A mass of parenchymatous tissue forming the bulk of ovule is

A. Obturator

B. Female gametophyte

C. Nucellus

D. Endosperm.

Answer: C



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147. Ovule is tritegmic in

A. Juglans

B. Casuarina

C. Opuntia

D. Asphodelus.

Answer: D



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

- A. Crassinucellate
- B. Tenuinucellate
- C. Resupinate ovule
- D. Protonucellate.

Answer: A



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149. In tenuinucellate type of ovule

A. Large amount of nucellus

B. Small amount of nucellus

C. Micropylar nucellus

D. Chalazal nucellus.

Answer: B



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150. The point of attachment of funiculus to the body of ovule is

A. Chalaza

B. Hilum

C. Raphe

D. Endothelium.

Answer: B



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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



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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



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153. A noncellular layer present on the outside of nucellus is

- A. Integument
- B. Exine
- C. Endostomium
- D. Cuticle.

Answer: D



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154. A nutritive inner region of integument is

A. Amphithecium

B. Endothecium

C. Endothelium

D. Endostomium.

Answer: C



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155. In ovule, archesporial cell differentiates from nucellus

A. At chalzal region

B. Middle of nucellus

C. Laterally near endothelium

D. Hypodermally in the micropylar region.

Answer: D



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156. In ovule, meiosis occurs in

- A. Archeporial cell
- B. Megasporocyte
- C. Parietal cell
- D. None of the above

Answer: B



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157. Meiosis of megaspore mother cell generally produces

- A. Linear tetrad
- B. Tetrahedral tetrad
- C. Decussate tetrad
- D. Isobilateral tetrad.

Answer: A



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158. Out of linear tetrad with one is the functional megaspore

A. Micropylar

B. Any of the middle ones

C. Chalazal

D. Any of the four.

Answer: C



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159. Embryo sac represents

A. Megaspore

B. Megagametophyte

C. Megasporangium

D. Female gamete.

Answer: B



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160. The most common type of embryo sac in angiosperm

A. Polygonum

B. Oenothera

C. Adoxa

D. Plumbago

Answer: A



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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



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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



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163. The egg apparatus, of angiosperm compares

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

Answer: C



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164. Which of the following cells are located at chalazal end

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



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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. When ovule is straight with funiculus, embryo sac, chalaza and micropyle lying in a straight vertical line, it is known as

- 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



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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 straight 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 characteristic of amphitropous 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



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

A. Campylotropous

B. Amphitropous

C. Both A and B

D. Hemitropous.

Answer: C



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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



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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



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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



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182. Which is more common

- A. Mesogamy
- B. Porogamy
- C. Chalazogamy
- D. Apogamy.

Answer: B



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

- A. Funicle
- B. Chalaza and micropyle
- C. Micropyle
- D. Integuments.

Answer: C



184. When the pollen tube enters the ovule through the integuments, the phenomenon is known as

- A. Mesogamy
- B. Aporogamy
- C. Chalazogamy
- D. Vegetative fertilization.

Answer: A



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185. Chalazogamy occurs in

A. Cucurbita

B. Lily

C. Populus

D. Casuarina.

Answer: D



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

- A. Chalazal end
- B. Laterally
- C. Antipodal haustorium
- D. Micropylar end.

Answer: D



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187. Embryo sac of flowering plants develops from

A. Zygote

B. Megaspore

C. Nucellus

D. Embryo.

Answer: B



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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



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189. Who discovered fertilization in ovule

A. Amici

B. Nawaschin

C. Hofmeister

D. Strasburger.

Answer: D



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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 polar 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



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192. Vegetative nucleus occurs in

A. All flowering plants

B. All seed plants

C. All vascular plants

D. All embryophytes.

Answer: A



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193. What is the other name of vegetative fertilization

A. Double fertilization

B. Somatogamy

C. Triple fusion

D. Central fertilization.

Answer: C



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194. Triple fusion was studied for the first time
by

A. Hofmeister

B. Nemec

C. Strasburger

D. Nawaschin.

Answer: D



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195. The term fertilisation is related to

A. Fusion of two cells

B. Fusion of two nuclei

C. Fusion of two gametes

D. Fusion of two gametic nuclei.

Answer: C



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196. Karyogamy is

A. Fusion of two germ cells

B. Fusion of two gametic nuclei

C. Fusion of a somatic cell and a
reproductive cell

D. Fusion of two somatic cells.

Answer: B



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197. Double fertilization occurs in

A. Pinus

B. Selaginella

C. Funaria

D. Dalbergia/Capsella.

Answer: D



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198. Fertilization occurs inside

A. Embryo sac

B. Ovule

C. Ovary

D. Carpel.

Answer: A



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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
epidermis

D. Multicellular derived from nucellar
hypodermis.

Answer: B



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201. Pollen grain germinates through

A. Micropyle

B. Integument

C. Chalaza

D. Germ pore.

Answer: D



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202. As compared to oosphere, the male gamete of angiosperms is

- A. Small
- B. With in the cytoplasm
- C. Nonvacuolate
- D. All the above.

Answer: D



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

- A. Embryo
- B. Cotyledons
- C. Endosperm
- D. Plumule.

Answer: C



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204. Which is not diploid

A. Nucellus

B. Integuments

C. Endosperm

D. Embryo.

Answer: C



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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. Coconut

B. Datura

C. Passiflora

D. Ricinus.

Answer: A



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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.

Answer: A



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210. Suspensor formed during embryogeny of *Sagittaria* is

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

Answer: D



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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



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212. In monocot embryo the radicle is produced by

A. terminal cell

B. Middle cell

C. Epiblast

D. Suspensor.

Answer: B



213. Epiblast represents

- A. Rudimentary leaves
- B. Mesocotyl
- C. Scutellum
- D. Second cotyledon.

Answer: D



214. An embryo may sometimes develop from any cell of embryo sac other than egg. It is termed as

A. Apospory

B. Apogamy

C. Adventitive embryogeny

D. Parthenogenesis.

Answer: C



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215. Nucellar embryo is

A. Amphimictic haploid

B. Amphimictic diploid

C. Apomictic haploid

D. Apomictic diploid.

Answer: D



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216. Development of a gametophyte directly from the sporophyte tissue is called

A. Apospory

B. Apogamy

C. Apomixis

D. Parthenogenesis.

Answer: B



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217. Formation of gametophyte directly from sporophyte without meiosis is

A. Apospory

B. Apogamy

C. Parthenogenesis

D. Amphimixis.

Answer: A



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218. Pollination is

- A. Transfer of pollen from anther to stigma
- B. Shedding of pollen grains from anthers
- C. Dispersal of pollen
- D. Fertilization of plants.

Answer: A



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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



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222. Cleistogamous flowers are

A. Male flowers which never open

B. Female 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 the same flower is

A. Heterostyly

B. Dichogamy

C. Dicliny

D. Herkogamy.

Answer: B



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224. Pollinia are found in the flowers of

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



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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



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231. In sausage tree (*Kigelia africana*) the pollination takes place by

A. Bats

B. Birds

C. Insects

D. Wind.

Answer: A



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232. In angiosperms, Number of nuclei and the cells taking part in double fertilization is

A. 5,5

B. 3,4

C. 5,4

D. 2,2

Answer: A



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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



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236. Meiosis occurs in

A. Endosperm cells

B. Intercalary meristems

C. Apical meristems

D. Spore mother cells.

Answer: D



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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



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238. Palynology is connected with the study of

A. Pollen grains

B. Palms

C. Flowers

D. Fruits.

Answer: A



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

- A. Isogamy
- B. Porogamy
- C. Mesogamy
- D. Chalazogamy.

Answer: C



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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 present 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



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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



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244. In an angiosperm, how many microspore mother cells are required to produce 100 pollen grains?

A. 200

B. 250

C. 300

D. 100

Answer: B



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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



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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



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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



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248. Ovule is attached to placenta of ovary wall
by:

A. Funicle

B. Petiole

C. Pedicel

D. Placenta.

Answer: A



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249. The point of attachment of funicle with the body of the ovule is

A. Nucellus

B. Chalaza

C. Micropyle

D. Hilum.

Answer: D



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250. Embryo sac occurs in

A. Embryo

B. Axis part of embryo

C. Ovule

D. Endosperm.

Answer: C



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251. Genotypically the pollen grain produced inside the 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



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253. Female gametophyte in angiosperms is called

A. Ovule

B. Megaspore mother cell

C. Embryo sac

D. Nucellus.

Answer: C



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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



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255. Polygonum type of embryo sac is

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

Answer: B



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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. Amount of nucellar tissue in a Crassinucellate ovule is:

- A. Ill developed nucellus
- B. Partially developed nucellus
- C. Well developed nucellus

D. No nucellus.

Answer: C



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258. Which one of the following pairs of plant structures has diploid number of chromosomes

A. Nucellus and antipodal cells

B. Antipodal cells and egg cell

C. Antipodal cells and megaspore mother cell

D. None of the above

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. Archosporium

C. Pollen grain

D. Anther.

Answer: D



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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



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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



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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.

Answer: C



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264. Ovules of *Capsella* and *Pisum sativum* are

A. Orthotropous

B. Anotropous

C. Amphitropous

D. Campylotropous.

Answer: D



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265. An orthotropous ovule is one , in which 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



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266. Chromosome number in a flowering plant can be

A. Haploid, diploid and polyploid

B. Haploid and diploid

C. Only diploid

D. Only haploid.

Answer: A



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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



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268. Double fertilization and triple fusion were discovered by

A. Hofmeister

B. Nawaschin and Guignard

C. Leeuwenhoek

D. Strasburger.

Answer: B



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269. Water is not required in the fertilization
of

A. Dryopteris

B. Selaginella

C. Vallisneria

D. Pisum/Maize.

Answer: D



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

A. Base pairing of their DNA and RNA

B. Formation of hydrogen bonds

C. Mutual attraction due to differences in electrical charges

D. Attraction of their protoplasts.

Answer: D



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271. Double fertilization is a characteristic of

A. Angiosperms

B. Pteridophytes

C. Gymnosperms

D. Bryophytes.

Answer: A



Watch Video Solution

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

A. Chalazogamy

B. Mesogamy

C. Porogamy

D. Pseudoamy.

Answer: C



Watch Video Solution

273. Doubles fertilization is fusion of

A. Two egg

B. Two eggs and polar 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



Watch Video Solution

274. When a diploid female parent is crossed with a tetraploid male the ploidy of endosperm cells in the resulting seed is

- A. Tetraploid
- B. Triploid
- C. Diploid
- D. Pentaploid.

Answer: A



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275. Endosperm of angiosperms is produced after fertilization of a male gamete with

- A. Antipodals
- B. Synergids
- C. Secondary nucleus
- D. Oosphere.

Answer: C



Watch Video Solution

276. Triploid tissue is

- A. Endosperm in Maize/Wheat/Lily
- B. Leaf in Onion/Bryophyllum/Pinus
- C. Root in Onion/Radish/Carrot
- D. Fern prothallus.

Answer: A



Watch Video Solution

277. Which one forms the endosperm

A. Antipodals

B. Synergids

C. Secondary nucleus

D. Oosphere.

Answer: C



Watch Video Solution

278. Fertilization is synonym with

A. Autogamy

B. Syngamy

C. Homogamy

D. Apogamy.

Answer: B



Watch Video Solution

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



Watch Video Solution

280. Milky water of green tender coconut called coconut milk is

A. Liquid chalaza

B. Liquid nucellus

C. Liquid/free nuclear endosperm

D. Liquid female gametophyte.

Answer: C



Watch Video Solution

281. Commonly in a mature fertilised ovule n , $2n$ and $3n$ condition is respectively found in :

A. Antipodals, egg and endosperm

B. Egg , nucellus and endosperm

C. Endosperm, nucellus and egg

D. Antipodals, synergids and integuments.

Answer: A



Watch Video Solution

282. Total number of meiotic divisions required for forming 100 zygotes/100 grains of wheat are

A. 100

B. 75

C. 125

D. 50

Answer: C



Watch Video Solution

283. If the number of chromosomes in root cells is 14, what will be the number of

chromosomes in synergid cells of an ovule of that percent?

A. 14

B. 21

C. 7

D. 28

Answer: C



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284. A leaf cell of a flowering plant has 22 chromosomes. Then the number of chromosomes would be

A. 44 in stem cells

B. 44 in embryo

C. 22 in gametes

D. 11 in gametes.

Answer: D



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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



Watch Video Solution

286. In angiosperms the number of meiotic divisions required to produce 100 macrospores is

A. 125

B. 100

C. 50

D. 25

Answer: B



Watch Video Solution

287. How many meiotic divisions are necessary to produce 100 pollen grains?

A. 125

B. 100

C. 50

D. 25

Answer: D



Watch Video Solution

288. Filiform apparatus is characteristic of

- A. Synergids
- B. Secondary nucleus
- C. Antipodals
- D. Egg nucleus.

Answer: A



Watch Video Solution

289. In double fertilization, male gamete and secondary nucleus form

A. Endosperm

B. Gamete

C. Embryo

D. Egg.

Answer: A



Watch Video Solution

290. In angiosperms, endosperm is formed by

A. Division of fused polar nuclei

B.

C. Division of fused polar nuclei and male gamete

D. Free nuclear divisions of megaspore

Answer: C



Watch Video Solution

291. In angiosperms, triple fusion is required for

- A. Embryo
- B. Endosperm
- C. Suspensor
- D. Fruit wall.

Answer: B



Watch Video Solution

292. Male gametes in angiosperms are formed by

- A. Generative cell
- B. Uninucleate microspore
- C. Vegetative cell
- D. Pollen tube.

Answer: A



Watch Video Solution

293. A typical anther is

A. Endothecium and tapetum

B. Exothecium and tapetum

C. Exothecium and endothecium

D. Exothecium, endothecium and tapetum.

Answer: D



Watch Video Solution

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.

Answer: C



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295. Exine of pollen grain is made up of

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

Answer: D



[Watch Video Solution](#)

296. Chromosome number in oosphere is 8.

The number in angiospermic endosperm shall be

A. 8

B. 12

C. 16

D. 24

Answer: D



Watch Video Solution

297. The movement of pollen tube in the carpel towards the embryo sac is

A. Thermotactic

B. Phototactic

C. Chemotactic

D. Thigmotactic.

Answer: C



Watch Video Solution

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



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

A. Apogamy

B. Apospory

C. Syngamy

D. Parthenospore

Answer: B



Watch Video Solution

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

Answer: D



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301. Chief pollinators of agricultural crops are

A. Butterflies

B. Bees

C. Moths

D. Beetles.

Answer: B



[Watch Video Solution](#)

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

A. Autogamy

B. Allogamy

C. Xenogamy

D. Geitonogamy.

Answer: D



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

- A. Zoophily
- B. Anemophily
- C. Entomophily
- D. Hydrophily.

Answer: C



Watch Video Solution

304. Pollination that occurs in closed flowers is known as

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

Answer: D



Watch Video Solution

305. In chiropterophily, pollination is performed by

A. Bats

B. Birds

C. Squirrels

D. Insects.

Answer: A



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306. Cleistogamous flowers are found in

- A. *Arachis hypogea*
- B. *Solanum tuberosum*
- C. *Cucumis melo*
- D. *Allium cepa*.

Answer: A



Watch Video Solution

307. Feathery stigma occurs in

A. Pea

B. Wheat/Jowar

C. Datura

D. Caesalpinia.

Answer: B



Watch Video Solution

308. Bees are important to agriculture as they

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

Answer: B



Watch Video Solution

309. The phenomenon of pollen grains being transferred to stigma by air is called

- A. Anemophily
- B. Entomophily
- C. Zoophily
- D. Malacophily.

Answer: A



Watch Video Solution

310. Myrmecophily is an association between a higher plant and

A. Ants

B. Moths

C. Birds

D. Bats.

Answer: A



Watch Video Solution

311. Moth pollinated flowers have

A. Inconspicuous petals with abundant pollen

B. Conspicuous coloured petals

C. Coloured petals and nectaries

D. White scented petals and nectaries.

Answer: D



Watch Video Solution

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 sativum*.

Answer: A



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314. A plant pollinated by bats is

A. *Ophrys*

B. Salvia

C. Kigellia

D. All the above.

Answer: C



Watch Video Solution

315. Cross pollination is

A. Autogamy

B. Allogamy

C. Chasmogamy

D. Cleistogamy.

Answer: B



Watch Video Solution

316. Pollination by insect is called:

A. Entomophily

B. Chiropterophily

C. Anemophily

D. Zoophily.

Answer: A



Watch Video Solution

317. Pollination by snails is termed as

A. Ornithophily

B. Chiropterophily

C. Entomophily

D. Malacophily.

Answer: D



Watch Video Solution

318. The polar nuclei are present in

A. Pollen tube

B. Embryo sac

C. Ovule

D. Thalamus.

Answer: B



[Watch Video Solution](#)

319. Sporopollenin is part of

- A. Pollen grain covering
- B. Oosphere covering
- C. Ovule covering
- D. Cell wall.

Answer: A



[Watch Video Solution](#)

320. Synergid is connected to

A. Antipodal cell

B. Endosperm

C. Ovary

D. Egg cell.

Answer: D



Watch Video Solution

321. Female gamete of angiosperms is represented by

A. Oospore

B. Carpel

C. Egg

D. Pollen grain.

Answer: C



Watch Video Solution

322. Double fertilization 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



Watch Video Solution

324. Fertilization involving carrying of male gametes by pollen tube is

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

Answer: B



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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



Watch Video Solution

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 mitotic 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



Watch Video Solution

330. Tetrads of megaspores is generally

A. Tetrahedral

B. Linear

C. Decussate

D. Isobilateral.

Answer: B



Watch Video Solution

331. Micropyle occurs in

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



Watch Video Solution

333. Ubisch bodies are connected with the development of

A. Sporopollenin

B. Intine and pollenkit

C. Exine

D. Pollenkitt and pollinia.

Answer: C



Watch Video Solution

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

A. Apospory

B. Diploid polyembryony

C. Adventitive polyembryony

D. Apomixis.

Answer: C



Watch Video Solution

335. Study of pollen grains is

A. Palynology

B. Palaeontology

C. Palaeobotany

D. None of the above.

Answer: A



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336. Perisperm is

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

Answer: D



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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



Watch Video Solution

338. Germ pore is an area where exine is

A. Thick

B. Thick and uniform

C. Uniform

D. Absent.

Answer: D



Watch Video Solution

339. The mature male gametophyte is
Angiosperms is

A. One

B. Two

C. Three

D. Four.

Answer: C



Watch Video Solution

340. Triple fusion, occurring in embryo sac results in formation of

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

Answer: B



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341. The gametes taking part in double fertilization are

A. 5

B. 4

C. 3

D. 2

Answer: C



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342. Which one is diploid

- A. (a) Synergids
- B. (b) Secondary nucleus
- C. (c) Egg
- D. (d) Antipodals

Answer: B



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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



Watch Video Solution

345. Which is part of female reproductive system

A. Embryo sac

B. Anther

C. Stamen

D. Microspore mother cell.

Answer: A



Watch Video Solution

346. Function of embryonal suspensor in angiosperms is to

A. Absorption of nourishment

B. Push the embryo into nutritive 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



Watch Video Solution

348. If an angiospermic male plants is a 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 discovered by Nawaschin and Guignard in

A. Liliium 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



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351. Pollen tube discharges its male gametes into

A. Egg

B. Healthy synergid

C. Degenerating synergid

D. Central cell.

Answer: C



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352. Endosperm formation is suppressed in

A. Liliaceae

B. Cyperaceae

C. Orchidaceae and Podostemonaceae

D. Gramineae.

Answer: C



Watch Video Solution

353. Formation of embryo directly from nucellus and integument is

A. Apospory

B. Adventitive polyembryony

C. Apogamy

D. Apomixis

Answer: B



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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



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355. Sporopollenin occurs in

- A. Female gametophyte
- B. Male gametophyte
- C. Vegetative cells of pollen grain
- D. Exine of pollen wall.

Answer: D



Watch Video Solution

356. The embryo of sunflower has

- A. One cotyledon
- B. Two cotyledons
- C. Three cotyledons
- D. Many cotyledons.

Answer: B



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357. Formation of embryo sac is

- A. Megasporogenesis
- B. Megagametogenesis
- C. Microgametogenesis
- D. None of the above.

Answer: B



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358. Phenomenon unique to angiosperms is/are

- A. Fusion of gametes
- B. Double fusion
- C. Triple fusion
- D. Double fertilization.

Answer: D



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359. Zygote of *Capsella bursa-pastoris* undergoes

- A. Longitudinal division
- B. Equal transverse division
- C. Unequal transverse division
- D. Oblique division.

Answer: C



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360. Pollen tube deposits its inclusions in

- A. Central cell
- B. Synergids
- C. Oosphere
- D. Antipodal cells.

Answer: A



Watch Video Solution

361. Suspensor is component off

A. Developing embryo

B. Mature embryo

C. Endosperm

D. Germinated embryo.

Answer: A



Watch Video Solution

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 portions is formed
- C. A seedless fruit is formed
- D. Fruit stops development.

Answer: B





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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



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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



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365. Embryo sac is

- A. Microgametophyte
- B. Microsporangium
- C. Megagametophyte
- D. Megasporangium.

Answer: C



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366. Polygonum type of embryo sac is

A. 8- nucleate

B. 16- nucleate

C. 24- nucleate

D. 32- nucleate.

Answer: A



Watch Video Solution

367. Tapetum occurs in

A. Anther wall

B. Ovary wall

C. Male gametophyte

D. Female gametophyte.

Answer: A



Watch Video Solution

368. 7 celled-8 nucleate embryosac 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



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371. Pollen grains are nongreen due to

A. Absence of plastids

B. Degeneration of plastids

C. Conversion of plastids into 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



Watch Video Solution

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

A. Porogamy

B. Chalazogamy

C. Mesogamy

D. Syngamy.

Answer: B



Watch Video Solution

374. In *Capsella*, embryo sac is

A. Haploid

B. Diploid

C. Triploid

D. Polyploid.

Answer: A



Watch Video Solution

375. Polygonum type of embryo sac is

A. Haploid

B. Diploid

C. Both A and B

D. Polyploid.

Answer: C



Watch Video Solution

376. Pollenkitt is formed from

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

Answer: D



Watch Video Solution

377. During which of the following formation free nuclear division occurs ?

- A. Flower
- B. Gametes
- C. Endosperm
- D. Fruit.

Answer: C



378. Sexual reproduction of flowering plants was discovered by

- A. (a) Camerarius
- B. (b) Nawaschin
- C. (c) Strasburger
- D. (d) Maheshwari.

Answer: A



379. The egg apparatus, of angiosperm compares

A. Egg and antipodals

B. Polar nuclei

C. Egg and synergids

D. Egg.

Answer: C



Watch Video Solution

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



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381. Route taken by pollen tube for entering ovule is

- A. Integument
- B. Micropyle
- C. Chalaza
- D. Any of the above.

Answer: D



Watch Video Solution

382. Number of chromosomes is 24 in nucellus.

Number of chromosomes in microspore mother cell would be

(a) 36

(b) 24

(c) 30

(d) 12

A. 36

B. 30

C. 24

D. 12

Answer: C



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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 available.

Answer: C



Watch Video Solution

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

A. Apomixis

B. Adventitive polyembryony

C. Apospory

D. Diploid polyembryony.

Answer: B



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

A. (a) Parthenogenesis

B. (b) Apogamy

C. (c) Apospory

D. (d) Parthenocarpy.

Answer: A



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

A. 48 and 24

B. 24 and 24

C. 24 and 12

D. 48 and 12.

Answer: D



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387. [A] : In Apomixis , plants of new genetic sequence are produced .

[R] : In Apomixis , two individuals of same genetic sequence meet .

A. A

B. B

C. C

D. D.

Answer: D



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388. Formation of an extra embryo from nucellus or 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



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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 termed as

A. Malacophily

B. Myrmecophily

C. Entomophily

D. Ornithophily.

Answer: B



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

A. Allogamy

B. Xenogamy

C. Homogamy

D. Dichogamy.

Answer: C



Watch Video Solution

393. Some plants having pleasant odour and attractive colours for

A. Entomophily

B. Hydrophily

C. Anemophily

D. All the above.

Answer: A



Watch Video Solution

394. Night Blooming flowers are generally

A. Light weight

B. Scented

C. Brightly coloured

D. Bloom in clusters.

Answer: B



Watch Video Solution

395. Heterozygosity is produced following

A. Xenogamy

B. Geitonogamy

C. Autogamy

D. Cleistogamy.

Answer: A



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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



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397. Anemophily occurs in

(a) Salvia

(b) Vallisneria

(c) Coconut

(d) Bottle Brush

A. Salvia

B. Vallisneria

C. Coconut

D. Bottle Brush.

Answer: C



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398. Developing pollen obtains its nutrition from

(a) Endothecium

(b) Tapetum

(c) Epidermis

(d) Middle layer

A. Endothecium

B. Tapetum

C. Epidermis

D. Middle layer.

Answer: B



Watch Video Solution

399. Pollination in Lotus is done by

A. Wind

B. Water

C. Insects

D. All the above.

Answer: C



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400. In *Casuarina* fertilisation takes place through

A. Mesogamy

B. Porogamy

C. Chalazogamy

D. Apogamy.

Answer: C



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401. Intraspecific incompatibility is overcome by

- A. Mixed pollination
- B. Self pollination
- C. Wetting of anthers
- D. Wetting of stigmas.

Answer: A



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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

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



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403. Anemophilous plants have

- A. Sticky stigmas
- B. Feathery stigmas
- C. Prominent nectaries
- D. Colourful flowers.

Answer: B



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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



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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 nucleus

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.

Answer: A



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

A. Xenia

B. Metaxenia

C. Ruminant endosperm

D. Chimera.

Answer: B



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411. Xenia and metaxenia term are related with

- A. Only endosperm
- B. Xylem and phloem
- C. Pollen and endosperm
- D. Pollen culture.

Answer: C



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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

A. Egg cell

B. Filiform apparatus

C. Antipodal cells

D. Secondary nucleus.

Answer: B



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414. Triple fusion produces

A. Polar nucleus

B. Secondary nucleus

C. Primary endospermic nucleus

D. Zygotic nucleus.

Answer: C



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415. In a flowering plant, 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 as its exine is made 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



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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.

Answer: B



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422. In 82 % of flowering plants, the ovule is

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

Answer: A



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423. Tapetal cells of stamens are :

- A. Diploid uninucleate
- B. Tetraploid binucleate
- C. Hexaploid tetranucleate
- D. Polyploid multinucleate.

Answer: D



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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



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425. Largest cell of the ovule is

- A. Megaspore mother cell
- B. Antipodal cell
- C. Central cell
- D. Size of cells variable.

Answer: C



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426. Match and find the correct combination

- | | |
|-------------------|----------------------|
| (a) Pollen grains | (d) Microsporangia |
| (b) Pollen sacs | (e) Microspores |
| (c) Stamens | (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. Assertion: Insects visit flowers to gather honey.

Reason: Attraction of flowers prevents the insects from damaging other parts.

A. A

B. B

C. C

D. D

Answer: D



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430. Pollen tube enters the embryo sac usually

- A. Through one of the synergids
- B. Directly penetrates the egg
- C. Between one synergid and central cell
- D. By knocking of antipodal cell.

Answer: A



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

A. Metaxenia

B. Nemec phenomenon

C. Xenia

D. Mesogamy.

Answer: B



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432. In flowering plants, meiosis takes place at the time of

A. Pollen grain formation

B. Seed formation

C. Gamete formation

D. Seed germination.

Answer: A



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433. Development of seed from an unfertilized egg is

A. Vivipary

B. Parthenocarpy

C. Aporgamy

D. Apospory.

Answer: C



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434. Match the columns with correct combination of endosperm chromosomes

<i>Column I</i>		<i>Column II</i>
(a) <i>Pisum sativum</i>	(i)	72
(b) <i>Oryza sativa</i>	(ii)	24
(c) <i>Nicotiana tabacum</i>	(iii)	60
(d) <i>Allium cepa</i>	(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



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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



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437. Which of the following statements are true

a. endothecium lies below epidermis

- b. fusion of egg with male gamete is called apogamy
- c. synergids are haploid
- c. synergids are haploid
- d. Point at which funicle touches the ovule is called raphe

A. a and d only

B. a and b only

C. b and d only

D. a and c only.

Answer: D



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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.

Answer: B



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439. Double fertilization results in formation of

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

Answer: C



440. Development of seed from 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 number of pollen grains.

Answer: D



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442. In a type of apomixis known as adventive 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

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.

Answer: D



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445. Which is diploid structure?

(a) Pollen grains

(b) Egg

(c) Megaspore

(d) MMC

A. Pollen grains

B. Egg

C. Megaspore

D. MMC.

Answer: D



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446. Ubisch bodies are secreted by

A. Ovule

B. Tapetum

C. Both A and B

D. None of the above.

Answer: B



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447. In Cucumber, pollen tube enters embryo sac through

A. Integuments

B. Micropyle

C. Endosperm

D. Chalaza.

Answer: A



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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



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

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

Answer: C



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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.

Answer: B



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451. From which cell of embryo, plumule is produced

- (a) Apical octant
- (b) Proembryo
- (c) Hypophysis
- (d) Micropylar octant

A. Apical octant

B. Proembryo

C. Hypophysis

D. Micropylar octant.

Answer: A



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452. Cleistogamous flowers are

A. Wind pollinated

B. Insect pollination

C. Bird pollinated

D. Self pollination.

Answer: D



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453. In angiosperms, central cell of embryo sac, prior to 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



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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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	<i>Column I</i>	<i>Column II</i>
	(a) Zoophily	1. Pollination by birds
	(b) Ornithophily	2. Pollination by insects
	(c) Entomophily	3. Pollination by bats
455.	(d) Chiropterophily	4. Pollination by animals

Match the column

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. $a^{-4}, b^{-2}, c^{-3}, d^{-1}$

Answer: C



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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. Ruminant endosperm occurs in

A. Cruciferea

B. Euphorbiaceae

C. Asteraceae

D. Annonaceae.

Answer: D



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458. What would be number of chromosomes in aleurone layer if megaspore mother cell contains 10 chromocomes

A. 10

B. 20

C. 15

D. None of the above.

Answer: C



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

A. Autogamy

B. Syngamy

C. Double fertilisation

D. Triple fusion.

Answer: B



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460. Identify the wrong statement regarding postfertilisation development

A. Ovary wall develops into pericarp

B. Outer integument of ovule develops into tegmen

C. Fusion nucleus (triple nucleus) develops into endosperm

D. Ovule develops into seed

Answer: B



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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.

Answer: C



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462. Radicle is produced from

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

Answer: D



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463. Male gametes are formed by

- A. Pollen cell
- B. Generative cell
- C. Pollen tube cell
- D. Pollen mother cell

Answer: B



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464. Pericarp of fruit develops from

A. Wall of ovary

B. Nucellus

C. Funicle

D. Seed coat.

Answer: A



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465. For the formation of embryo sac, the megaspore mother cell undergoes

- 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



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466. Versatile anthers are connector with

A. Entomophily

B. Malacophily

C. Ornithophily

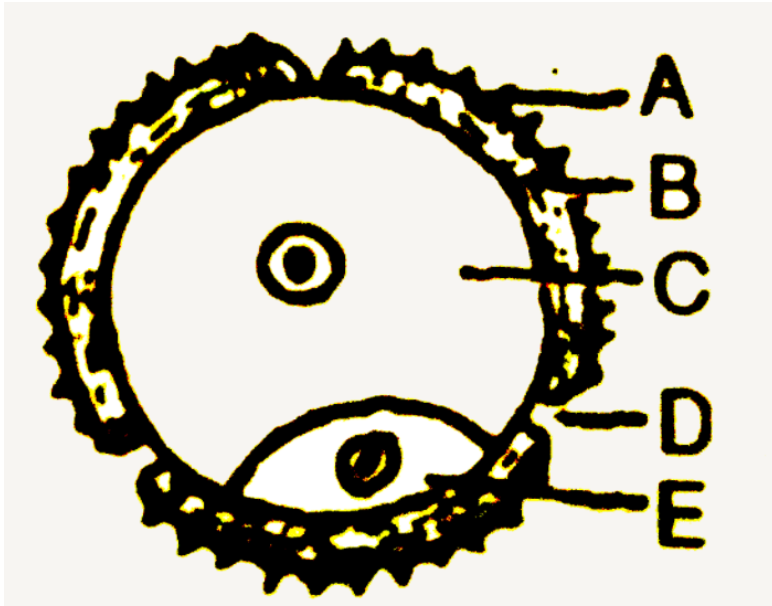
D. Anemophily.

Answer: D



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467. In the given diagram name the parts A, B, C and 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 synergid cells of an ovule of that percent?

A. 28

B. 21

C. 14

D. 7

Answer: D



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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



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474. Match the columns and select the correct combination

<i>Column I</i>		<i>Column II</i>	
<i>a</i>	Ovule	1.	Endosperm
<i>b</i>	Funiculus	2.	Aril
<i>c</i>	Nucellus	3.	Seed
<i>d</i>	Polar nuclei	4.	Perisperm



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475. Given below are assertion and reason.
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 monosporic embryo sac is called Polygonum type of embryo sac. Reason. It was discovered by Hofmeister for the first time in Polygonum

A. A

B. B

C. C

D. D.

Answer: C



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476. Choose the mismatched option

A. wind - Cannabis - anemophily

B. Water - Zostera - hydrophily

C. Insects - Salvia - entomophily

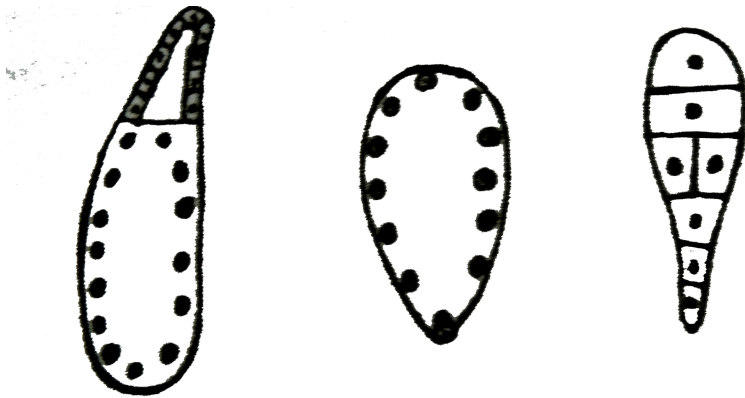
D. Birds - Adansonia - ornithophily

Answer: D



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477. Select the correct order of endosperm types.



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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



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480. The ovary after fertilisation is converted into

A. Embryo

B. Fruit

C. Endosperm

D. Seed.

Answer: B



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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 from 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

A. Brings about opening of pollen tube

B. Guides pollen tube from 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

A. Pollen exine

B. Leaf cuticle

C. Cork

D. Wood fibre.

Answer: A



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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

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. Advantage of cleistogamy is

A. It leads to greater 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



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486. The normal type of embryo sac is 8-nucleated and

- A. Single celled
- B. Seven celled
- C. Eight celled
- D. Four celled.

Answer: B



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487. Assured seed set even in absence of pollinators may occur in

- A. Xenogamous
- B. Chasmogamous
- C. Geitonogamous
- D. Cleistogamous.

Answer: D



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488. In a mature embryo sac the central cell is

A. Single nucleate

B. Binucleate

C. Four nucleate

D. Eight nucleate.

Answer: B



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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 by cytokinesis

B. Karyokinesis is followed by cytokinesis

C. Formation of liquid endosperm is not dependent upon karyokinesis and cytokinesis

D. None of the above.

Answer: A



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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



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492. Consider the following statements and choose the correct option

(i) The genetic constitution 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 microsporangium 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



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494. Monocot seed generally shows

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

Answer: B



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495. Pollen grains have spiny exine to aid in

- A. Entomophily
- B. Anemophily
- C. Ornithophily
- D. Chiropterophily.

Answer: A



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496. A non-nutritive structure is

A. Tapetum

B. Endosperm

C. Integument

D. Palisade parenchyma.

Answer: C



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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



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498. Number of gametes produced by a male gametophyte of flowering plant is

A. Four

B. One

C. Three

D. Two.

Answer: D



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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



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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



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501. A typical dicotyledonous embryo consists of

A. Radicle only

B. Radicle, embryonal axis and cotyledons

C. Cotyledons only

D. Embryo axis only.

Answer: B



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502. Select the incorrect statement regarding angiosperm

A. Pollen grain is the first cell of male gametophyte

B. Megaspore is diploid

C. Megaspore is the first cell of female gametophyte

D. All of above.

Answer: B



503. Which of the following statements about sporopollenin is incorrect ?

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.

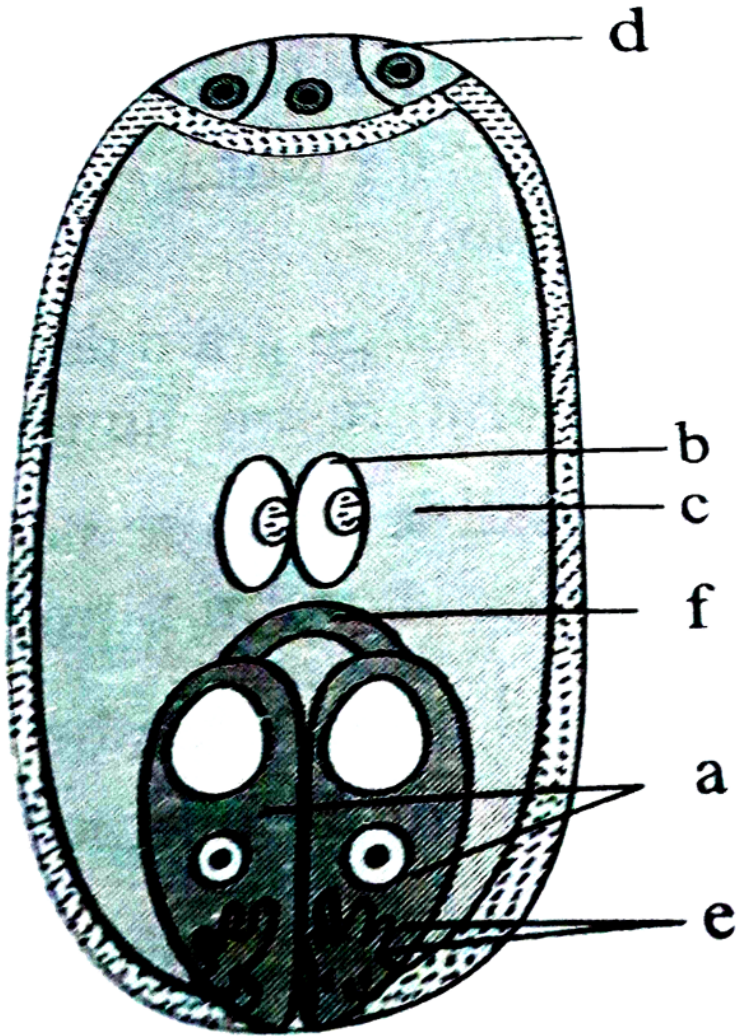
Answer: C



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504. In the given diagram, 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. Maternal 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



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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 the
previous divisions _____ Periclinal division

B. Vertical division ___ Vertical division at
right angles to the first
division ___ Division at right angles to

both the previous 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



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509. Number of male gametes formed 16 microspore mother cells is

A. 128

B. 64

C. 32

D. 16

Answer: A



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510. Microspore mother cell forms

A. Microsporangium

B. Pollen sac

C. Female gametophyte

D. Pollen grains.

Answer: D



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511. Syngamy produces

- A. Embryo
- B. Endosperm
- C. Perisperm
- D. Both A and B.

Answer: A



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512. Which one produces embryo sac

A. Megaspore mother cell

B. Megaspore

C. Microspore

D. Embryo cell.

Answer: B



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513. Part of suspensor that helps in food absorption is

A. Hypophysis

B. Haustorium

C. Basal cell

D. Intermediate cell.

Answer: B



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514. Thread-like pollen without exine are found
in

- A. Hydrophily
- B. Entomophily
- C. Anemophily
- D. Chiropterophily.

Answer: A



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515. Clones do not appear during

A. Cuttings

B. Budding

C. Grafting

D. Seed propagation.

Answer: D



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

- A. Micropyle
- B. Chalazal end
- C. Ovary wall
- D. Integument.

Answer: A



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517. Cleistogamous flowers are found in

A. Tobacco

B. *Mirabilis*

C. *Viola*

D. None of the above.

Answer: C



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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

A. Xenogamy

B. Geitonogamy

C. Chasmogamy

D. Autogamy.

Answer: A



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519. Gametogenesis in haploid plants involves

- (a) Binary fission
- (b) Meiosis
- (c) Mitosis
- (d) Amitosis

A. Binary fission

B. Meiosis

C. Mitosis

D. Amitosis.

Answer: C



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520. Which is example of parthenocarpic fruit?

(A) Strawberry

(B) Cashew

(C) Banana

(D) Apple

A. Strawberry

B. Cashew

C. Banana

D. Apple.

Answer: C



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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



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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 waterlily, 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

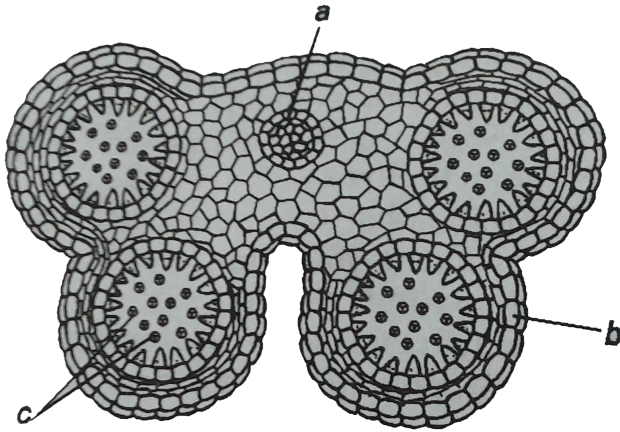
D. a, d correct, b, c incorrect.

Answer: B



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523. Identify the parts labelled a, b and c



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524. In which one of the following 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 agent 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) 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



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531. Both, autogamy and geitonogamy are prevented in

A. Papaya

B. Cucumber

C. Castor

D. Maize.

Answer: A



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

A. Zostera

B. Fig

C. Salvia

D. Commelina.

Answer: D



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

A. Endosperm

B. Embryo

C. Endocarp

D. Mesocarp.

Answer: A



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534. Xenogamy is essentially a type of

A. Autogamy

B. Homogamy

C. Allogamy

D. Cleistogamy.

Answer: C



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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



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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





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

A. Wind

B. Bees

C. Birds

D. Butterflies.

Answer: A



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538. Innermost microsporangial wall layer that nourishes pollen grains is

- A. Endothecium
- B. Tapetum
- C. Endodermis
- D. Sporogenous tissue.

Answer: B



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539. Which one is the hardest plant product ?

A. Suberin

B. Lignin

C. Sporopollenin

D. Cutin.

Answer: C



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540. Entomophilous flowers are related to

A. Honey bees

B. Wind

C. Water

D. Hairy Mammals

Answer: A



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541. Remnants of nucleus which are found in seeds are called:

A. Pericarp

B. Periderm

C. Endosperm

D. Perisperm.

Answer: D



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542. Which one of the following events takes place after double fertilisation ?

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



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543. Match the columns and choose the correct combination

I		II	
1. Funicle	<i>a.</i>	Small opening of ovule	
2. Integuments	<i>b.</i>	Stalk of ovule	
3. Chalaza	<i>c.</i>	Protective envelopes of ovule	
4. Hilum	<i>d.</i>	Junction part of ovule and stalk	
5. Micropyle	<i>e.</i>	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

Answer: A



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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 chalaza

Answer: C



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545. Match the columns and choose the correct combination

I

II

- | | |
|-----------------|---|
| (a) Cleistogamy | (m) Insect pollination |
| (b) Geitonogamy | (n) Bud pollination |
| (c) Entomophily | (o) Pollination between flowers of the same plant |
| (d) Xenogamy | (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 synergids?

(a) 14

(b) 21

(c) 7

(d) 28

A. 14

B. 21

C. 7

D. 28

Answer: C



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547. Sporopollenin is formed by polymerisation of

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

Answer: A



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548. The pollen tube enters the ovule through

A. Hilum

B. Chalaza

C. Funcile

D. Micropyle.

Answer: D



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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 the 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) Tetrasporic embryo sac occurs in *Pepoeromia*

(b) Stamens are epipetalous in *Grevillea*

(c) Cross pollination in *Kigellia pinnata* takes place by snails

(d) In *Scrophularia* androecium matures earlier than gynoecium

A. Tetrasporic embryo sac occurs in *Pepoeromia*

B. Stamens are epipetalous in *Grevillea*

C. Cross pollination in *Kigelia pinnata*

takes place by snails

D. In *Scrophularia* androecium matures

earlier than gynoecium.

Answer: A



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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



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554. Megasporangium is equivalent to

A. Ovule

B. Embryo sac

C. Fruit

D. Nucellus.

Answer: D



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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

A. Tapetum nourishes the developing

pollen

B. Hard outer layer of pollen is called intine

C. Sporogenous tissue is haploid

D. Endothecium produces microspores.

Answer: A



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557. Animal vectors are required for pollination in

A. Mulberry

B. Cucumber

C. Maize

D. Vallisneria.

Answer: B



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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 degraded by enzymes.

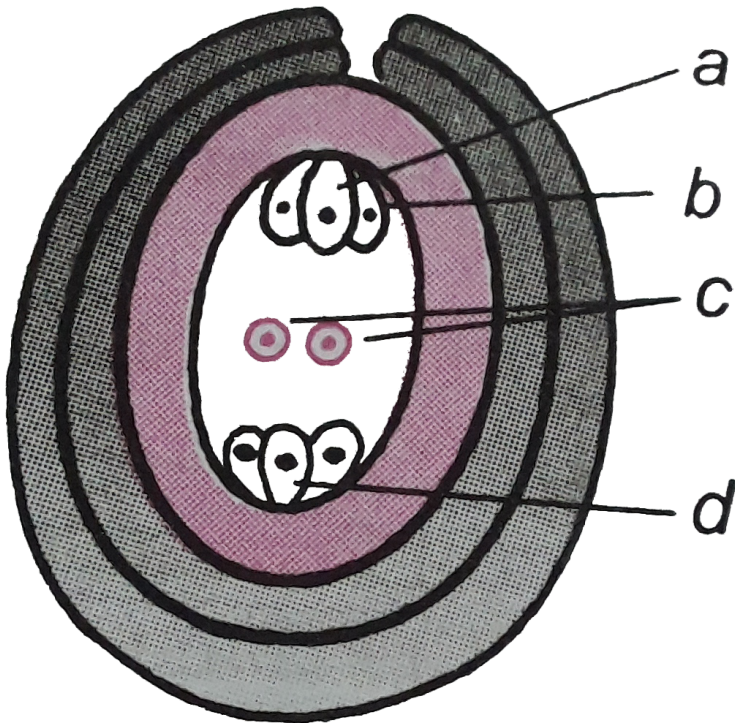
Answer: B



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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

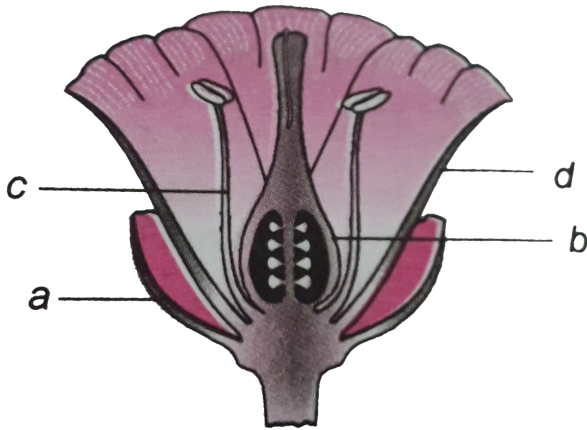
D. 400

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



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562. Occurrence of triploid ($3n$) endosperm is characteristic feature of

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

Answer: D



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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



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564. After double fertilization, a mature ovule has

- A. 1 diploid 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



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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 artificially to develop into embryo

D. Young ones develop from reproductive units.

Answer: B



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566. Which is not correct about entomophilous flowers

A. Pollen grains are heavy and sticky

B. Stigmas are unbranched

C. Sepals are not well developed.

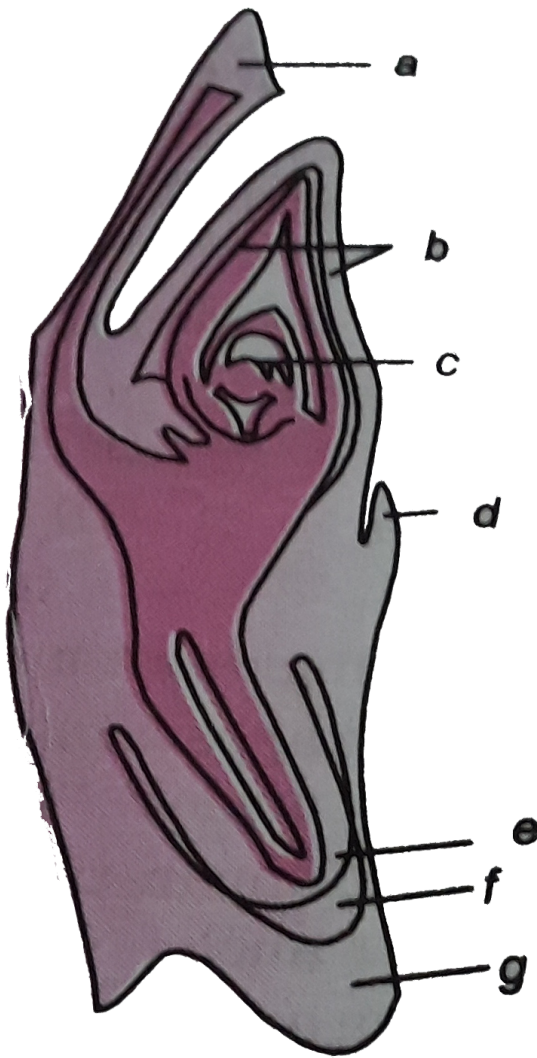
D. Petals brightly coloured

Answer: C



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



A. (1) a- scutellum, b- coleoptile, c- shoot
apex, d- epiblast, e- radicle, f- root cap, g-

coleorhiza

B. (2) a- root cap, b- shoot apex, c-
scutellum, d- coleoptile, e- epiblast, f-
radicle, g- coleorhiza

C. (3) a- coleorhiza, b- radicle, c- epiblast, d-
coleoptile, e- root cap, f- scutellum, g-
shoot apex

D. (4) a- coleoptile, b- scutellum, c- radicle,
d- shoot apex, e- epiblast, f- coleorhiza, g-
root cap.

Answer: A



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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

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 perianth

C. Selectively removing some carpels

D. Inserting an alcohol dipped needle into ovary.

Answer: C



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570. In flowering plants, double fertilization involves

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.

Answer: A



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571. Which part of flowering plant contains sporogenous tissue

A. Stamen

B. Pollen

C. Microspores

D. Young anthers.

Answer: D



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572. Embryo sac of angiosperms contains

A. 3- celled egg apparatus, 3 antipodal cells

and 2 polar nuclei

B. 2- celled 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 apparatus, 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 later 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 angiosperms 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

A. Pea

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



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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



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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. 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



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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.

Answer: A



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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



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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

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 pollen 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



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585. Perisperm is found in

A. Black pepper

B. Wheat

C. Maize

D. Groundnut.

Answer: A



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586. Which of the following finds application in hybrid seed industry

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

Answer: A



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587. An angiosperm male plant having 24 chromosomes in its pollen mother cell is crossed with a female plant bearing 24 chromosomes in its root cells. The number of chromosomes in embryo and endosperm formed from this cross will most like be

A. 24 and 48

B. 24 and 24

C. 48 and 72

D. 24 and 36

Answer: D



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588. Cross pollination does not occur in

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

Answer: C



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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 angiosperms 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



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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



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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 do not produce nectar

A. III and IV

B. II and III

C. I and II

D. II

Answer: A



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592. How many plants in the given below are pollinated by water ?

Vallisneria , Zostera , water hyacinth , water lily , coconut , yucca , Hydria , Ficus

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 is not endospermic.

Answer: B



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594. Pollen tablets are available in the market 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 formation of female gametophyte in angiosperms?

A. (a) Nucellus → Megaspore tetrad → Megaspore mother cells → Megaspore female gametophyte

B. (b) Megaspore tetrad → nucellus → megaspore mother cells → megaspore → female gametophyte

C. (c) Nucellus → Megaspore mother cell

→ megaspore tetrad → megaspore

→ female gametophyte.

D. (d) Megaspore mother cell →

megaspore tetrad → megaspore →

nucellus → 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



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598. Non-albuminous seed is produced in

A. Castor

B. Wheat

C. Pea/Groundnut

D. Maize.

Answer: C



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599. Papaya is a dioecious plant. This condition prevents

- A. Both autogamy and geitenogamy
- B. Only autogamy
- C. Only xenogamy

D. Geitonogamy.

Answer: A



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600. Formation of fruit without fertilization is

A. Apomixis

B. Dormancy

C. Parthenocarpy

D. Polyembryony.

Answer: A



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601. The recent record of Years old viable seed is of the date palm, *Phoenix dactylifera* , discovered during archaeological excavation at king Herod's palace near the dead sea.

A. *Strobilanthus kunthiana*

B. *Phoenix dactylifera*

C. *Lupinus arcticus*

D. *Dendrocalamus strictus*.

Answer: B



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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



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

A. 30

B. 60

C. 15

D. 40

Answer: C



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604. Match the columns

(A) Early Blight of
Potato

(B) Late Blight of
Potato

(C) Smut of Wheat

(D) Rust of Wheat

(i) *Puccinia
graminis*

(ii) *Ustilago tritici*

(iii) *Phytophthora
infestans*

(iv) *Alternaria solani*



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605. Match the columns and find the correct option

(a) Parthenocarpy

(b) Polyembryony

(c) Largest seed

(d) Seeds from Arctic tundra

(i) *Lodoicea*

(ii) Banana

(iii) Mango

(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 male 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. The monocotyledonous seed (wheat grain) consists of one large and shield shaped cotyledon known as

- A. Coleoptile
- B. Scutellum
- C. Aleurone layer
- D. Coleorhiza.

Answer: B



Watch Video Solution

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



Watch Video Solution

610. Name the plants that show adventive embryonic cells

A. Sunflower and mango

B. Lemon and Maize

C. Citrus and Mango

D. Lemon and Palms

Answer: C



Watch Video Solution

611. Pollen grain develops from which part of anther

A. Epidermis

B. Endothecium

C. Tapetum

D. Sporogenous tissue.

Answer: D



Watch Video Solution

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

A. Oospore

B. Integument

C. Endosperm

D. Cotyledon.

Answer: A



Watch Video Solution

613. Anemophily is NOT observed in

A. Maize

B. Jowar

C. Sugarcane

D. Salvia.

Answer: D



Watch Video Solution

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

C. 240

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





Watch Video Solution

616. Environmental biotic factor that helps in pollination is

A. Air

B. Water

C. Wind

D. Insects.

Answer: D



Watch Video Solution

617. Which is not properly matched

A. Exine of pollen grains - Sporopollenin

B. Tapetum - Ubisch bodies

C. Male gametophyte of angiosperms - No
prothialial cells

D. Most common type of ovule -
Orthotropous.

Answer: D



[Watch Video Solution](#)

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

A. Apogamy

B. Apomixis

C. Amphimixis

D. Apospory.

Answer: A



[Watch Video Solution](#)

619. In pulses , protein is stored in

A. Endosperm

B. Cotyledons

C. Pericarp

D. Seed coat.

Answer: B



Watch Video Solution

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



Watch Video Solution

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 accompanied by

- A. Antipodal cell
- B. Synergids
- C. Definite nucleus
- D. Tube nucleus.

Answer: B



Watch Video Solution

623. Number of meiotic divisions required to produce 1000 pollen grains in wheat is

A. 200

B. 250

C. 500

D. 1000

Answer: B



Watch Video Solution

624. Caruncle is derived from

- A. Peduncle
- B. Cotylendon
- C. Outer integument
- D. Inner integument.

Answer: C



Watch Video Solution

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



Watch Video Solution

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



Watch Video Solution

627. Fibrous bands develop in the cells of anther wall layer known as

- A. Epidermis
- B. Endothecium
- C. Middle layers
- D. Tapetum.

Answer: B



Watch Video Solution

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



Watch Video Solution

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 into 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



630. Which of the following is false in angiosperms

- A. Egg cell - haploid
- B. Megaspore - diploid
- C. Pollen grain - haploid
- D. Synergid - haploid.

Answer: B



631. In angiosperms, microsporogenesis and megasporogenesis

- A. Occur in anthers
- B. Form gametes without further divisions
- C. Involve meiosis
- D. Occur in ovule.

Answer: C



Watch Video Solution

632. Male gaemtophyte 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



Watch Video Solution

633. Which pollinator is not attracted by scent of flower?

(a) Bird

(b) Moth

(c) Bat

(d) Butterfly

A. Bird

B. Moth

C. Bat

D. Butterfly.

Answer: A



Watch Video Solution

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

(a) 32

(b) 16

(c) 48

(d) 9

A. 32

B. 16

C. 48

D. 9

Answer: C



Watch Video Solution

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

A. Anemophily

B. Entomophily

C. Hydrophily

D. Zoophily.

Answer: C



Watch Video Solution

636. Choose the correct options for statements P, Q, R in relevance to grass

Statement P .Flowers possess attractive colour and 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



Watch Video Solution

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



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638. Which is false?

- (a) Pro-ubisch bodies when 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

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



Watch Video Solution

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

D. Cleistogamous flowers exhibit both autogamy and geitonogamy.

Answer: B



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640. In a dithecous 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. Which among these is not a post-fertilisation event?

A. Gametogenesis

B. Embryogenesis

C. Fruit formation

D. Seed formation.

Answer: A



Watch Video Solution

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



Watch Video Solution

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



Watch Video Solution

644. Which of the following wall layer anther shows fibrous thickening (of callose)

A. Epidermis

B. Tapetum

C. Middle layer

D. Endothecium.

Answer: D



Watch Video Solution

645. Which of the following in embryo sac of angiosperms shows filiform apparatus

A. Antipodals

B. Polar nuclei

C. Egg

D. Synergids.

Answer: D



Watch Video Solution

646. Which is a character of Castor plant to avoid autogamy?

(a) Unisexuality

(b) Porogamy

(c) Protandry

(d) Heterostyly

A. Unisexuality

B. Porogamy

C. Protandry

D. Heterostyly.

Answer: A



Watch Video Solution

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



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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



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649. Match the ovules with plants

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

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

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

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

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

Answer: D



Watch Video Solution

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



Watch Video Solution

652. Which is not part of anther wall

A. Epidermis

B. Middle layers

C. Endothecium

D. Nucelus .

Answer: D



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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

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



Watch Video Solution

655. The coconut water from tender coconut represents

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

Answer: A



Watch Video Solution

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 pollination 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



Watch Video Solution

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

I	II
(a) Pistils fuse together	(i) Gametogenesis
(b) Formation of gametes	(ii) Pistillate
(c) Hyphae of higher ascomycetes	(iii) Syncarpous
(d) Unisexual female flower	(iv) Dikaryotic

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

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

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

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

Answer: A



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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



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

A. Bats

B. Water

C. Insects or wind

D. Birds .

Answer: C



Watch Video Solution

661. The ovule of an angiosperm is technically equivalent to

A. Megaspore

B. Megasporangium

C. Megasporophyll

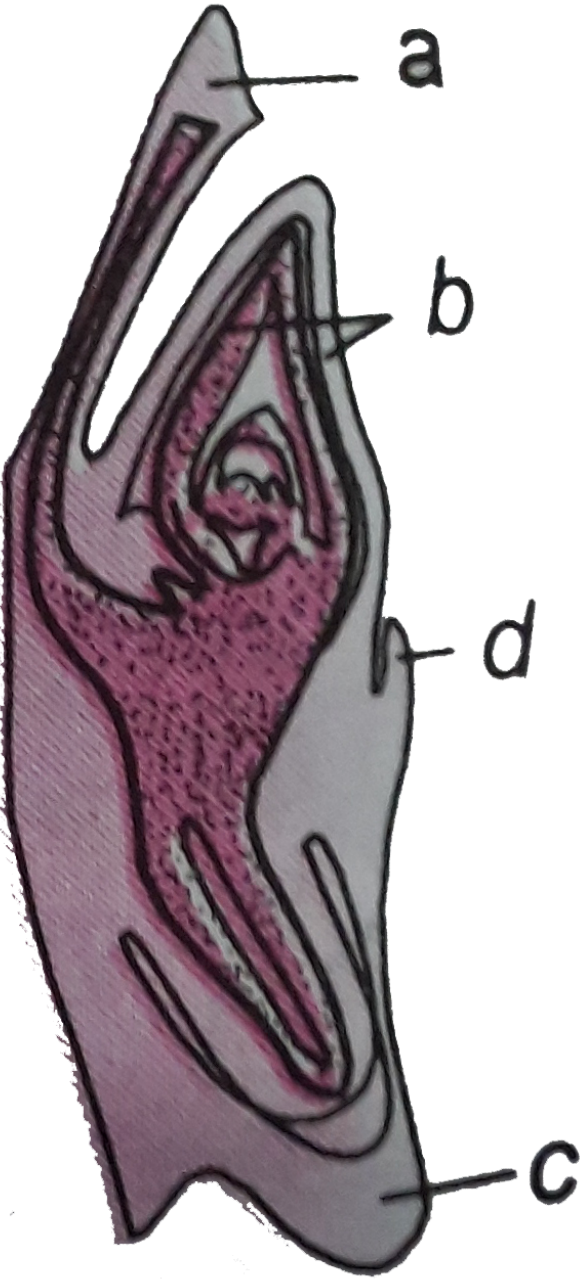
D. Megaspore mother cell.

Answer: B



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



- A. (a) a-scutellum, b-epiblast, c-coleoptile, d-coleorhiza
- B. (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



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663. Match the columns and find the correct options

I	II
(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) a-iv, b-ii, c-iii, d-i

B. (b) a-iii, b-ii, c-i, d-iv

C. (c) a-i, b-iv, c-iii, b-ii

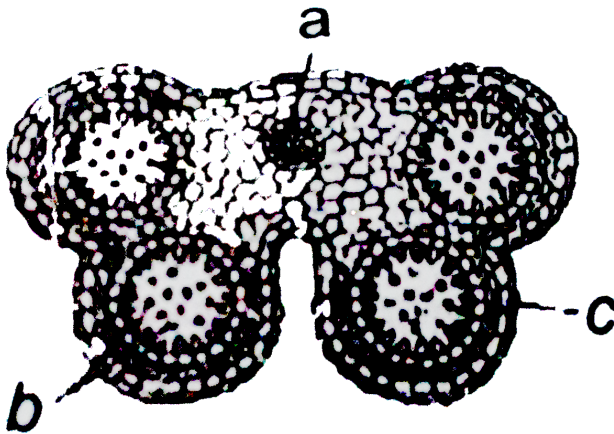
D. (d) a-ii, b-iii, c-i, d-iv.

Answer: B



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664. In T.S anther, identify a, b and c



A. (1) a-connective, b-pollen grains, c-
endothecium.

B. (2) a-endothecium, b-connective, c-pollen grains

C. (3) a-pollen grains, b-connective, c-endothecium

D. (4) a-endothecium, b-pollen grains, c-connective.

Answer: A



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665. Assertion : Endothecium layer of anther wall plays an important role in dehiscence of anther.

Reason : The presence of fibrous bands and differential expansion of inner and outer tangential walls of endothelial cells cause dehiscence of anther.

A. Point out if both are true with reason being correct explanation.

B. both true but reason 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. Flowers 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 rewards are required for

A. Anemophily

B. Entomophily

C. Hydrophily

D. Cleistogamy.

Answer: B



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Check Your Grasp

1. Which one induces agamospermy in Apple

A. (a) Hormones

B. (b) Low temperature

C. (c) Cross pollination

D. (d) Self pollination.

Answer:



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2. Diplospory leads to

A. Adventitive embryony

B. Recurrent agamospermy

C. Nonrecurrent agamospermy

D. Parthenogamy.

Answer:



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3. What is pre-requisite for self pollination

A. Chasmogamy

B. Homogamy

C. Absence of pollenkit.

D. Absence of nectar.

Answer:



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4. Hypohydrophily occurs in

A. Ceratophyllum

B. Lemna

C. Vallisneria

D. Nelumbium.

Answer:



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5. Butterflies pollinate

- A. Bluish flowers
- B. Violet flowers
- C. Reddish flowers
- D. Purple flowers.

Answer:



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6. Moth *Pronuba/Tegeticula* is dependent for its survival on plant

(a) *Magnolia*

(b) *Erythrina*

(c) *Adhatoda*

(d) *Yucca*

A. *Magnolia*

B. *Erythrina*

C. *Adhatoda*

D. Yucca.

Answer: D



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7. Mulberry is pollinated by

(a) Wind

(b) Water

(c) Insects

(d) Birds

A. Wind

B. Water

C. Insects

D. Birds.

Answer:



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8. Crows help pollination of

A. Agave

B. Bombox

C. Erythrina

D. Bignonia.

Answer: B



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9. Jasmine shows

A. Herkogamy

B. Dimorphic heterostyly

C. Trimorphic heterostyly

D. Dicliny.

Answer:



Watch Video Solution

10. A flower with over one thousand stamens is

A. Bignonia

B. Bombox

C. Cannabis

D. Adansonia.

Answer:



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11. In Kalmia

- A. Anthers are exposed
- B. Stigma is exposed
- C. Anthers are covered by corolla pockets
- D. Both B and C

Answer:



Watch Video Solution

12. Above ground cleistogamous flowers are formed late in the season in

A. Balsam

B. Viola

C. Oxalis

D. All the above.

Answer: D



13. Monosporangiate anther occurs in

(a) Arceuthobium

(b) Rafflesia

(c) Malva

(d) Citrus

A. Arceuthobium

B. Rafflesia

C. Malva

D. Citrus.

Answer:



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

- (a) Microspore mother cells
- (b) Sporogenous cells
- (c) Tapetum
- (d) Middle layers

A. Microspore mother cells

B. Sporogenous cells

C. Tapetum

D. Middle layers.

Answer:



Watch Video Solution

15. Endothelial cells of anther has fibrous thickenings of

(a) Suberin

(b) Cellulose

(c) Cutin

(d) Lignin

A. Suberin

B. Cellulose.

C. Cutin

D. Lignin.

Answer:



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16. Discontinuous layers in the wall of pollen grain are

A. Absent

B. Foot layer

C. Bectulate layer

D. Baculate layer and tectum.

Answer:



Watch Video Solution

17. Pollen tube is covered by

- (a) Exine only
- (b) Plasmalemma only
- (c) intine only
- (d) Exine and intine

A. Exine only

B. Plasmalemma only

C. intine only

D. Exine and intine.

Answer:



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18. In molva/*Althaea* a single pollen grain produces pollen tube

A. 1

B. 2

C. 4-6

D. 10-14

Answer:



19. An indehiscent integumented megasporangium is found in

- A. Spermatophytes
- B. Angiosperms only
- C. Gymnosperms only
- D. Both gymnosperms and angiosperms

Answer:



20. 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

A. Outer part of integument

B. Outer part of nucellus

C. Surface of both nucellus and
integuments

D. None of the above.

Answer:



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21. A diploid structure present in the embryo sac is

A. Oosphere or egg

B. Secondary nucleus

C. Synergids

D. Antipodal cells.

Answer:



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22. Type of ovule present in *Opuntia* is

A. Camphylotropus

B. Amphitropous

C. Circinotropous

D. Hemitropous.

Answer:



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23. Endothelium develops from

(a) Nucellus

(b) Nucellus surrounding embryo sac

(c) Tissue near chalaza

(d) Inner part of integument

A. Nucellus

B. Nucellus surrounding embryo sac

C. Tissue near chalaza

D. Inner part of integument.

Answer:



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24. Siphonogamy was discovered by

A. Strasburger

B. Amici

C. Nawaschin

D. Guignard

Answer:



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25. In dicot embryo hypophysis is

A. Terminal 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



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

(a) Orchids

(b) Orobanche

(c) Utricularia

(d) All the above

A. Orchids

B. Orobanche

C. Utricularia

D. All the above.

Answer:



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27. In angiosperm, polyembryony was first reported by:

(a) Leeuwenhoek

(b) Strasburger

(c) Hofmeister

(d) Hanstein

A. Leeuwenhoek

B. Strasburger

C. Hofmeister

D. Hanstein.

Answer:



Watch Video Solution

28. First scientist to study development of angiosperm embryo was

- (a) Strasburger
- (b) Flemming
- (c) Hanstein
- (d) Hofmeister

A. Strasburger

B. Flemming

C. Hanstein

D. Hofmeister.

Answer:



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29. In Areca, the endosperm is

(a) Soft and ruminant

(b) Fleshy and ruminant

(c) Hard and smooth

(d) Hard and ruminant

A. Soft and ruminant

B. Fleshy and ruminant

C. Hard and smooth

D. Hard and ruminant.

Answer:



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30. Xenia was discovered by

(a) Swingle

(b) Focke

(c) Guignard

(d) Amici

A. Swingle

B. Focke

C. Guignard

D. Amici.

Answer:



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31. the smallest pollen grain occurs in

A. Myosotis

B. Mirobilis

C. Zostera

D. Eucalyptus.

Answer:



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32. Amongst angiosperms, double fertilization/triple fusion is absent in

A. Orchidaceae

B. Trapaceae, orchidaceae and podostemonaceae

C. Orchidaceae and podostemonaceae

D. There is no exception.

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



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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



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4. Group of specialized thickened nucellar cells between embryo sac and chalaza is

A. Hypostase

B. Epistase

C. Tapetum

D. Endothelium.

Answer: A



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5. Hypostase is meant for providing

A. Support to embryo sac

B. Nourishment to embryo sac

C. Breaking continuity with parent

D. Partway for growth of future embryo.

Answer: B



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

A. Metastase

B. Mesostase

C. Epistase

D. Hypostase.

Answer: C



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7. *Sasa paniculata* contains a large number of antipodal cells. The number is

- (a) 15
- (b) 85
- (c) 150
- (d) 300

A. 15

B. 85

C. 150

D. 300

Answer: D



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8. Antipodal cells enlarge tremendously in

(a) Sasa

(b) Caltha

(c) Aconitum

(d) Both b and c

A. Sasa

B. Caltha

C. Aconitum

D. Both B and C.

Answer: D



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9. Which one develops from funicle of base of ovule?

(a) Sarcotesta

(b) Aril

(c) Arillode

(d) Operculum

A. Sarcotesta

B. Aril

C. Arillode

D. Operculum.

Answer: B



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10. Which one develops from exostome

- A. Arillode
- B. Operculum
- C. Sarcotesta
- D. Endothelium.

Answer: A



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

- A. Hypostase
- B. Epistase
- C. Endothelium
- D. Arillode.

Answer: C



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12. Endothelium develops from

(a) Nucellus

(b) Nucellus surrounding embryo sac

(c) Tissue near chalaza

(d) Inner part of integument

A. Endostome

B. Exostome

C. Chalaza

D. Inner layer of integument.

Answer: D



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13. Middle layers of pollen sac wall are absent
in

A. Compositae

B. Lemnaceae

C. Najadaceae

D. Both B and C.

Answer: D



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14. Growth of pollen tube is

A. Apical

B. Intercalary

C. Basal

D. Intermittent.

Answer: A



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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



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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



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17. Pollen tube cytoplasm is like any other living cell in showing

- (a) Callose
- (b) Large vacuoles
- (c) Cytoplasmic streaming
- (d) Mucilage vesicles

A. Callose

B. Large vacuoles

C. Cytoplasmic streaming

D. Mucilage vesicles.

Answer: C



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18. Male nucleus fuses with female nucleus during fertilization in Angiosperms as

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. Thin sheath of cytoplasm devoid of cell
organelles

D. Both B and C.

Answer: A



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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



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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



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 which type of polyembryony

- A. Cleavage polyembryony
- B. Adventitious budding polyembryony
- C. Endosperm polyembryony
- D. Both A and B.

Answer: A



24. Endosperm polyembryony is type of

- A. Adventitive polyembryony
- B. True polyembryony
- C. False polyembryony
- D. Gametophytic polyembryony.

Answer: B



25. In sporophytic polyembryony, the additional embryos develop 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. Adventitious 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.

Answer: D



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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. Both b and c

Answer: d



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29. Ethylene is antagonised by

A. Calcium

B. Carbon dioxide

C. Silver

D. Both B and C.

Answer: D



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30. A fungus which secretes abscisic acid is

A. Aspergillus

B. Gibberella

C. Cercospora

D. Alternaria.

Answer: C



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31. Johnson (1829) discovered

(a) Hydrotropism

(b) Phototropism

(c) Geotropism

(d) Photonasty

A. Hydrotropism

B. Phototropism

C. Geotropism

D. Photonasty.

Answer: A



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32. Geotropism was discovered by

A. Darwin

B. Frank

C. Haberlandt

D. Gercke.

Answer: B



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33. Taxis is movement in

- (a) Single cell
- (b) Single-celled organism
- (c) Cell organelles
- (d) All of above

A. Single cell

B. Single-celled organism

C. Cell organelles

D. All of above.

Answer: D



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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

A. Thigmotropism

B. Haptonasty

C. Chemotropism

D. Chemonasty.

Answer: B



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35. Trihydroxybenzene, a developer in photography is popularly called

A. Hypo

B. Pyrogallol

C. Phosphor

D. Autochrome.

Answer: B



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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



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37. Pomalin used for increasing Apple size is

A. Auxin

B. Mixture of auxin and gibberellin

C. Mixture of auxin and cytokinin

D. Mixture of cytokinin and gibberellin.

Answer: B



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