

CHAPTER 1

Sexual Reproduction in Flowering Plants

Flower and Pre-fertilisation

- Given below are two statements: (2022)
Statement I: Cleistogamous flowers are invariably autogamous
Statement II: Cleistogamy is disadvantageous as there is no chance for cross pollination
In the light of the above statements, choose the correct answer from the options given below.
a. Statement I is incorrect but Statement II is correct
b. Both Statement I and Statement II are correct
c. Both statement I and statement II are incorrect
d. Statement I is correct but Statement II is incorrect
- Identify the incorrect statement related to Pollination: (2022)
a. Moths and butterflies are the most dominant pollinating agents among insects
b. Pollination by water is quite rare in flowering plants
c. Pollination by wind is more common amongst abiotic pollination
d. Flowers produce foul odours to attract flies and beetles to get pollinated
- A typical angiosperm embryo sac at maturity is: (2021)
a. 7- nucleate and 8-celled b. 7- nucleate and 7-celled
c. 8- nucleate and 8- celled d. 8-nucleate and 7- celled
- The term used for transfer of pollen grains from anthers of one plant to stigma of different plant which, during pollination, brings genetically different types of pollen grains to stigma, is: (2021)
a. Geitonogamy b. Chasmogamy
c. Cleistogamy d. Xenogamy
- In some members of which of the following pairs of families, pollen grains retain their viability for months after release ? (2021)
a. Poaceae ; Leguminosae
b. Poaceae ; Solanaceae
c. Rosaceae ; Leguminosae
d. Poaceae ; Rosaceae
- The plant parts which consist of two generations one within the other: (2020)
1. Pollen grains inside the anther
2. Germinated pollen grain with two male gametes
3. Seed inside the fruit
4. Embryo sac inside the ovule
a. (1), (2) and (3) b. (3) and (4)
c. (1) and (4) d. (1) only
- In water hyacinth and water lily, pollination takes place by: (2020)
a. Water currents only b. Wind and water
c. Insects and water d. Insects or wind
- The body of the ovule is fused within the funicle at: (2020)
a. Micropyle b. Nucellus
c. Chalaza d. Hilum
- Which of the following is incorrect for wind-pollinated plants? (2020-Covid)
a. Many ovules in each ovary
b. Flowers are small and not brightly coloured
c. Pollen grains are light and non-sticky
d. Well exposed stamens and stigma
- Which of the following has proved helpful in preserving pollen as fossils? (2018)
a. Pollenkitt b. Cellulosic intine
c. Oil content d. Sporopollenin
- Pollen grains can be stored for several years in liquid nitrogen having a temperature of: (2018)
a. -120°C b. -80°C
c. -196°C d. -160°C
- Functional megaspore in an angiosperm develops into: (2017-Delhi)
a. Ovule b. Endosperm
c. Embryo sac d. Embryo
- A dioecious flowering plant prevents both: (2017-Delhi)
a. Autogamy and xenogamy
b. Autogamy and geitonogamy
c. Geitonogamy and xenogamy
d. Cleistogamy and xenogamy

14. Flowers which have single ovule in the ovary and are packed into inflorescence are usually pollinated by: (2017-Delhi)
- Water
 - Bee
 - Wind
 - Bat
15. Attractants and rewards are required for: (2017-Delhi)
- Anemophily
 - Entomophily
 - Hydrophily
 - Cleistogamy
16. The ovule of an angiosperm is technically equivalent to: (2016 - II)
- Megaspore mother cell
 - Megaspore
 - Megasporangium
 - Megasporophyll
17. Pollination in water hyacinth and water lily is brought about by the agency of: (2016 - II)
- Birds
 - Bats
 - Water
 - Insects or wind
18. In majority of angiosperms: (2016 - II)
- Reduction division occurs in the megaspore mother cell
 - A small central cell is present in the embryo sac
 - Egg has a filiform apparatus
 - There are numerous antipodal cells
19. Which of the following statements is not correct? (2016 - I)
- Pollen grains of many species can germinate on the stigma of a flower, but only one pollen tube of the same species grows into the style.
 - Insects that consume pollen or nectar without bringing about pollination are called pollen/nectar robbers.
 - Pollen germination and pollen tube growth are regulated by chemical components of pollen interacting with those of the pistil.
 - Some reptiles have also been reported as pollinators in some plant species.
20. Which one of the following statements is not true? (2016 - I)
- Tapetum helps in the dehiscence of anther
 - Exine of pollen grains is made up of sporopollenin
 - Pollen grains of many species cause severe allergies
 - Stored pollen in liquid nitrogen can be used in the crop breeding programmes
21. Proximal end of the filament of stamen is attached to the: (2016 - I)
- Anther
 - Connective
 - Placenta
 - Thalamus or petal
22. Which one of the following may require pollinators but is genetically similar to autogamy? (2015)
- Apogamy
 - Cleistogamy
 - Geitonogamy
 - Xenogamy
23. Which of the following are important floral rewards to the animal pollinators? (2015)
- Floral fragrance and calcium crystal
 - Protein pellicle and stigmatic exudates
 - Colour and large size of flower
 - Nectar and pollen grains
24. In angiosperms, microsporogenesis and megasporogenesis: (2015 Re)
- Form gametes without further divisions
 - Involve meiosis
 - Occur in ovule
 - Occur in anther
25. Filiform apparatus is characteristic feature of: (2015 Re)
- Nucellar embryo
 - Aleurone cell
 - Synergids
 - Generative cell
26. Male gametophyte in angiosperms produces: (2015 Re)
- Single sperm and a vegetative cell
 - Single sperm and two vegetative cells
 - Three sperms
 - Two sperms and a vegetative cell
27. Which one of the following statements is not true? (2015 Re)
- The flowers pollinated by flies and bats secrete foul odor to attract them
 - Honey is made by bees by digesting pollen collected from flowers
 - Pollen grains are rich in nutrients, and they are used in the form of tablets and syrups
 - Pollen grains of some plants cause severe allergies and bronchial afflictions in some people
28. Pollen tablets are available in the market for: (2014)
- Ex situ* conservation
 - In vitro* fertilisation
 - Breeding programmes
 - Supplementing food
29. Function of filiform apparatus is to: (2014)
- Guide the entry of pollen tube
 - Recognise the suitable pollen at stigma
 - Stimulate division of generative cell
 - Produce nectar
30. Geitonogamy involves: (2014)
- Fertilisation of a flower by the pollen from a flower of another plant belonging to a distant population
 - Fertilisation of a flower by the pollen from another flower of the same plant
 - Fertilisation of a flower by the pollen from the same flower
 - Fertilisation of a flower by the pollen from a flower of another plant in the same population
31. Which one of the following statements is correct? (2013)
- Tapetum nourishes the developing pollen
 - Hard outer layer of pollen is called intine
 - Sporogenous tissue is haploid
 - Endothecium produces the microspores
32. Advantage of cleistogamy is: (2013)
- Vivipary
 - Higher genetic variability
 - More vigorous offspring
 - No dependence on pollinators

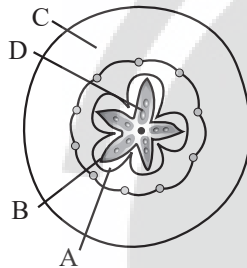
33. Megasporangium is equivalent to: (2013)
- Ovule
 - Embryo sac
 - Fruit
 - Nucellus

Double Fertilisation

34. Double fertilisation is: (2018)
- Fusion of two male gametes of a pollen tube with two different eggs
 - Fusion of one male gamete with two polar nuclei
 - Fusion of two male gametes with one egg
 - Syngamy and triple fusion

Post Fertilisation

35. Which part of the fruit, labelled in the given figure makes it a false fruit? (2022)



- D → Seed
 - A → Mesocarp
 - B → Endocarp
 - C → Thalamus
36. In some plants thalamus contributes to fruit formation. Such fruits are termed as (2020-Covid)
- Aggregate fruits
 - True fruits
 - Parthenocarpic fruit
 - False fruits
37. Which one of the following statements regarding post-fertilization development in flowering plants is incorrect? (2019)
- Ovary develops into fruit
 - Zygote develops into embryo
 - Central cell develops into endosperm
 - Ovules develop into embryo sac
38. Persistent nucellus in the seed is known as (2019)
- Chalaza
 - Perisperm
 - Hilum
 - Tegmen
39. What is the fate of the male gametes discharged in the synergid? (2019)
- One fuses with egg other(s) degenerate(s) in the synergid.
 - All fuse with the egg.
 - One fuses with the egg, other(s) fuse(s) with synergid nucleus.
 - One fuses with the egg and other fuses with central cell nuclei.

40. The hollow foliar structure in a wheat embryo that encloses the shoot apex and a few leaf primordia is called: (2017-Gujarat)

- Coleoptile
- Coleorrhiza
- Epicotyl
- Hypocotyl

41. Cotyledon of maize grain is called: (2016 - I)

- Plumule
- Coleorrhiza
- Coleoptile
- Scutellum

42. The coconut water from tender coconut represents: (2016 - I)

- Endocarp
- Fleshy mesocarp
- Free nuclear proembryo
- Free nuclear endosperm

43. The hilum is a scar on the: (2015)

- Fruit, where style was present
- Seed, where micropyle was present
- Seed, where funicle was attached
- Fruit, where it was attached to pedicel

44. The wheat grain has an embryo with one, large, shield-shaped cotyledon known as: (2015 Re)

- Coleorrhiza
- Scutellum
- Coleoptile
- Epiblast

45. Which one of the following fruits is parthenocarpic? (2015 Re)

- Apple
- Jackfruit
- Banana
- Brinjal

46. Coconut water from a tender coconut is: (2015 Re)

- Free nuclear endosperm
- Innermost layers of the seed coat
- Degenerated nucellus
- Immature embryo

47. Non-Albuminous seed is produced in: (2014)

- Pea
- Maize
- Castor
- Wheat

48. Perisperm differs from endosperm in: (2013)

- Its formation by fusion of secondary nucleus with several sperms
- Being a haploid tissue
- Having no reserve food
- Being a diploid tissue

Apomixis and Polyembryony

49. Seed formation without fertilisation in flowering plants involves the process of: (2016 - I)

- Sporulation
- Budding
- Somatic hybridisation
- Apomixis

Answer Key

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
b	a	d	d	c	c	d	d	a	d	c	c	b	c	b	c	d
18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
a	a	a	d	c	d	b	c	d	b	d	a	b	a	d	a	d
35	36	37	38	39	40	41	42	43	44	45	46	47	48	49		
d	d	d	b	d	a	d	d	c	b	c	a	a	d	d		

