



## BIOLOGY

### BOOKS - AAKASH SERIES

## SEXUAL REPRODUCTION IN FLOWERING PLANTS

### Question

1. How many cells are there in an embryo sac?

 [Watch Video Solution](#)

2. How many embryo sacs are present in an ovule?

 [Watch Video Solution](#)

3. How many ovules are present in an ovary?

 [Watch Video Solution](#)

4. How many ovaries are present in a typical flower?

 [Watch Video Solution](#)

5. How many flowers are present on a tree?

 [Watch Video Solution](#)

6. How large is the tree of Ficus developed from that tiny seed?

 [Watch Video Solution](#)

7. How many billions of seeds does each Ficus tree produce?



[Watch Video Solution](#)

8. You imagine any other example in which such a tiny structure can produce such a large biomass over the years?



[Watch Video Solution](#)

9. What is fruit production without fertilization called?



[Watch Video Solution](#)

## Exercise I Introduction Microsporophyll Anther Male Gametophyte

1. Flower organs have evolved from modified

A. Leaves

B. Branches

C. Sporangia

D. Apical meristems

**Answer: A**



[Watch Video Solution](#)

2. A typical anther of an angiosperm is

A. haploid, bisporangiate

B. diploid, tetrasporangiate

C. diploid bisporangiate

D. haploid, tetrasporangiate

**Answer: B**



[Watch Video Solution](#)

3. Male gametes are formed by

A. vegetative cell

B. tube cell

C. generative cell

D. pollen tube

**Answer: A**



[Watch Video Solution](#)

4. How many nuclei are present in a mature pollen?

A. 1

B. 7

C. 3

D. 4

**Answer: A**



[Watch Video Solution](#)

**5.** The intine of a pollen grain is mainly made up of

- A. cellulose and pectin
- B. lipid and pectin
- C. pectin and lignin
- D. lignin and cutin

**Answer: A**



[Watch Video Solution](#)

**6.** The exine of a pollen grain is composed of one of the most resistant biological material by which pollen grains are able to withstand extremes

of temperature and dessication and cannot be degraded by any enzyme is

- A. lignocellulose
- B. sporopollenin
- C. cellulose and lignin
- D. pectin and cellulose

**Answer: B**



**Watch Video Solution**

7. Sculpturing of exine of pollen is important in

- A. mitotic studies
- B. physiological studies
- C. taxonomic studies
- D. medicinal studies

**Answer: C**



**Watch Video Solution**

**8. Male gametes in angiosperms are formed by the division of**

- A. generative cell
- B. vegetative cell
- C. microspore mother cell
- D. microspore

**Answer: A**



**Watch Video Solution**

**9. In flowering plants, mature male gametophyte is derived from a pollen mother cell by**



- A. two mitotic divisions
- B. one meiotic and two mitotic divisions
- C. three mitotic divisions
- D. a single meiotic division

**Answer: B**

 [Watch Video Solution](#)

**10.** In a flowering plant  $2n = 24$ , the number of chromosomes in its endosperm will be :

- A. 36
- B. 24
- C. 12
- D. 48

**Answer: A**

 [Watch Video Solution](#)

11. Pollen grains are shed at

- A. 2 celled
- B. 3 celled
- C. usually at 2 celled, but sometimes at 3 celled
- D. single celled stage

**Answer: C**

 [Watch Video Solution](#)

12. Fusion of male gamete with polar nuclei of embryo sac is known as

- A. double fertilization
- B. embryogeny
- C. pollination

D. triple fusion

**Answer: D**



**Watch Video Solution**

**13. Tapetum occurs in**

A. anther

B. androecium

C. ovary

D. ovule

**Answer: A**



**Watch Video Solution**

**14. Which one of the following statements is correct?**

- A. Endothecium produces the microspores
- B. Tapetum nourishes the developing pollen
- C. Hard outer layer of pollen is called intine
- D. Sporogenous tissue is haploid

**Answer: B**

 [Watch Video Solution](#)

**15.** Exine of pollen grain is made up of

- A. pectocellulose
- B. ligno cellulose
- C. sporopollenin
- D. pollen kit

**Answer: C**

 [Watch Video Solution](#)

16. Pollen tablets are available in the market for

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

**Answer: D**



**Watch Video Solution**

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

- A. exine is made up of sporopollenin
- B. sporopollenin is one of the resistant organic materials

C. exine has apertures called germ pores where sporopollenin is present

D. sporopollenin can withstand high temperature and strong acids

**Answer: C**



**Watch Video Solution**

**18.** In angiosperms how many male gametes are produced by one meiosis in one pollen mother cell (PMC)

A. 4

B. 8

C. 1

D. 2

**Answer: B**



**Watch Video Solution**

19. Male gametes in angiosperms are formed by the division of

- A. vegetative cell
- B. microspore mother cell
- C. microspore
- D. generative cell

**Answer: D**



[Watch Video Solution](#)

20. If there are 40 pollen mother cells in anther, what will be the number of pollen grains?

- A. 160
- B. 120
- C. 80

D. 40

**Answer: A**



**Watch Video Solution**

## Exercise I Megasporophyll Ovule Female Gametophyte

1. Ovule is attached to the placenta by a stalk known as

- A. funicle
- B. petiole
- C. pedicel
- D. hilum

**Answer: A**



**Watch Video Solution**



2. Ovule is curved and the embryo sac is horse-shoe shaped. Micropyle, chalaza and funicle occur near one another. The ovule is

- A. campylotropous
- B. amphitropous
- C. orthotropous
- D. anatropous

**Answer: B**



[Watch Video Solution](#)

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

- A. orthotropous
- B. anatropous
- C. campylotropous

D. amphitropous

**Answer: A**



[Watch Video Solution](#)

4. An ovule which becomes curved so that the nucellus and embryo sac lie at right angles to the funicle is

A. hemitropous

B. campylotropous

C. anatropous

D. amphitropous

**Answer: A**



[Watch Video Solution](#)

5. Ovule is inverted (resupinates at  $180^\circ$ ) with body fused to funicle, micropyle lying close to hilum and side by side with funicle facing the placent and is most common in Angiosperms. It is

- A. hemitropous
- B. orthotropous
- C. anatropous
- D. campylotropous

**Answer: C**



[Watch Video Solution](#)

6. Ovule of Opuntia is coiled and turn at more than  $360^\circ$  angle, is called

- A. circinotropous
- B. anatropous
- C. hemitropous

D. amphitropous

**Answer: A**



**Watch Video Solution**

7. Micropyle is found in

A. ovule

B. seed

C. both ovule and seed

D. fruit

**Answer: C**



**Watch Video Solution**

8. Micropyle in the ovule is formed by

- A. outer integument
- B. inner integument
- C. both outer and inner integument
- D. outer integument and funicle

**Answer: B**

 [Watch Video Solution](#)

**9. 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. wo functional megaspores
- D. the megaspore mother cell where meiosis has occurred but cytokinesis does not take place

**Answer: A**



[Watch Video Solution](#)

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

A. 36

B. 24

C. 30

D. 12

**Answer: B**



[Watch Video Solution](#)

11. Which of the following is haploid ?

A. Style

B. Ovary

C. Synergids

D. Primary endosperm nucleus

**Answer: C**



[Watch Video Solution](#)

12. Filiform apparatus is characteristic of

A. synergids

B. egg

C. anther wall

D. antipodal cells

**Answer: A**



[Watch Video Solution](#)

13. In an ovule, the seat of many biochemical reactions is

A. integuments

B. nucellus

C. embryo sac

D. chalaza

**Answer: D**



[Watch Video Solution](#)

14. Which of the following cell of embryo sac is first haploid, later diploid and finally becomes triploid?

A. antepodal

B. synergids

C. secondary nucleus

D. central cell



**Answer: D**



**Watch Video Solution**

**15. Embryo sac represents**

- A. megaspore
- B. female gametophyte
- C. megasporophyll
- D. megagamete

**Answer: B**



**Watch Video Solution**

**16. Anthesis is a phenomenon which refers to**

- A. reception of pollen by stigma

- B. formation of pollen
- C. development of anther
- D. opening of flower bud

**Answer: D**



[Watch Video Solution](#)

17. What does the filiform apparatus do at the entrance into ovule?

- A. it brings about opening of the pollen tube
- B. it guides pollen tube from a synergid to egg
- C. it helps in the entry of pollen tube into a synergid
- D. it prevents entry of more than one pollen tube into the embryo sac

**Answer: C**



[Watch Video Solution](#)

18. An ovule which becomes curved so that the nucellus and embryo sac lie at right angles to the funicle is

- A. hemitropous
- B. campylotropous
- C. anatropous
- D. orthotropous

**Answer: A**



[Watch Video Solution](#)

19. The functional megaspore develops after three successive mitotic division into

- A. embryo
- B. embryo sac
- C. ovule

D. zygote

**Answer: B**



[Watch Video Solution](#)

**20.** Chiropterophily means

- A. pollination by snails
- B. pollination by bats
- C. pollination by wind
- D. pollination by insects

**Answer: B**



[Watch Video Solution](#)

**21.** A typical angiospermic embryo sac at maturity is eight nucleate and

A. single celled

B. ) four celled

C. seven celled

D. eight celled

**Answer: C**



**Watch Video Solution**

**22. Fertile cell of egg apparatus is**

A. synergids

B. egg

C. anther wall

D. antipodal cells

**Answer: B**



**Watch Video Solution**

23. The egg apparatus of angiosperm comprises

- A. an egg cell and two antipodals
- B. an egg cell and two synergids
- C. an egg cell and two polar nuclei
- D. an egg cell and the central cell

**Answer: B**



[Watch Video Solution](#)

24. In angiosperms, functional megaspore develops into

- A. embryo sac
- B. ovule
- C. endosperm

D. pollen sac

**Answer: A**



**Watch Video Solution**

**25.** Arrangement of nuclei in normal dicot embryo sac is

A.  $3+3+2$

B.  $2+3+3$

C.  $3+2+3$

D.  $2+4+2$

**Answer: C**



**Watch Video Solution**

1. A flower on a dioecious plant would be

- A. complete
- B. bisexual
- C. asexual
- D. unisexual

**Answer: D**



[Watch Video Solution](#)

2. Pollination is characteristic of

- A. Bryophytes and Angiosperms
- B. Pteridophytes and Angiosperms
- C. Angiosperms and Gymnosperms
- D. Angiosperms and Fungi



**Answer: C**



**Watch Video Solution**

**3. Subterranean cleistogamous flower is formed in :**

- A. Viola
- B. Anthocephalus
- C. Commelina benghalensis
- D. Ficus benghalensis

**Answer: C**



**Watch Video Solution**

**4. Maturation of gynaecium before anthers of the same flower of**

- A. protogyny

B. protandry

C. heterogamy

D. autogamy

**Answer: A**



[Watch Video Solution](#)

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

A. anemophily

B. entomophily

C. ornithophily

D. malachophily

**Answer: B**



[Watch Video Solution](#)

6. Continued self pollination results in:

- A. inbreeding depression
- B. self incompatibility
- C. hybrid vigour
- D. all of these

**Answer: A**



[Watch Video Solution](#)

7. Entomophilous hydrophyte is

- A. Vallisneria
- B. Zostera
- C. Nymphaea
- D. heterostyly

**Answer: C**



**Watch Video Solution**

**8.** Plants with ovaries having only one or a few ovules are generally pollinated by

A. Birds

B. Wind

C. Beeds

D. Butterflies

**Answer: B**



**Watch Video Solution**

**9.** Both autogamy and geitonogamy are prevented in

A. Cucumber

B. Castor

C. Maize

D. Papaya

**Answer: D**



**Watch Video Solution**

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

A. mesogamy

B. apogamy

C. chalazogamy

D. vegetative fertilization

**Answer: A**

 [Watch Video Solution](#)

11. When the pollen of a flower is transferred to the stigma of another flower of a different plant , the pollination is referred to as

- A. autogamy
- B. geitonogamy
- C. xenogamy
- D. allogamy

**Answer: B**

 [Watch Video Solution](#)

12. Pollination by snail and slug is known as

- A. ornithophilous
- B. chiropterophilous

C. entomophilous

D. melacophilous

**Answer: B**



[Watch Video Solution](#)

**13. Advantage of cleistogamy is**

A. it leads to greater genetic diversity

B. seed dispersal is more efficient and wides pread

C. seed set is not dependent on pollinators

D. each visit of a pollinator results in trasfer of hundreds of pollen grains

**Answer: C**



[Watch Video Solution](#)

14. The type of pollination involving transfer of pollen grains from anther to the stigma of the same flower is known as

- A. geitonogamy
- B. xenogamy
- C. autogamy
- D. apogamy

**Answer: C**



[Watch Video Solution](#)

15. The type of pollination which brings genetically different types of pollen on the stigma is

- A. xenogamy
- B. geitonogamy
- C. chasmogamy



D. autogamy

**Answer: A**



**Watch Video Solution**

**16.** Cleistogamous flowers are found in

A. tobacco

B. viola

C. mirabills

D. none of these

**Answer: B**



**Watch Video Solution**

17. When pollen grains are not transferred from rather to stigma in a flower, due to the physical barrier, it is called

- A. cleistogamy
- B. herkogamy
- C. dichogamy
- D. heterogamy

**Answer: B**



[Watch Video Solution](#)

## Exercise I Pollen Pistil Interactions And Fertilization

1. 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**



**Watch Video Solution**

2. The device that guides the pollen tube in the cavity of ovary is

A. obturator

B. transmitting tissue

C. placenta

D. central cell

**Answer: A**



**Watch Video Solution**

3. Which one is the female gamete in embryo sac

- A. egg cell
- B. antipodal cell
- C. placenta
- D. synergids

**Answer: A**



**Watch Video Solution**

4. The role of double fertilization in angiosperms is to produce

- A. cotyledons
- B. endocarp
- C. endosperm
- D. hormones

**Answer: C**



[Watch Video Solution](#)

5. Double fertilisation involves

- A. fertilization of the egg by two male gametes
- B. fertilization of two eggs in the same embryo sac by two sperms brought by one pollen tube
- C. fertilization of the egg and the central cell by two sperms brought by different pollen tubes
- D. fertilization of the egg and the central cell by two sperms brought by the same pollen tube

**Answer: D**



[Watch Video Solution](#)

6. Identify the wrong statements regarding post fertilisation development

- A. The ovary wall develops into pericarp
- B. The outer integument of ovule develops into tegmen
- C. The product of triple fusion develops into endosperm
- D. The ovule develops into seed

**Answer: B**



[Watch Video Solution](#)

7. The entry of pollen tube into the ovule through micropyle is called

- A. porogamy
- B. mesogamy
- C. anisogamy
- D. chalazogamy

**Answer: A**



[Watch Video Solution](#)

**8. Emasculation is**

- A. pollination between flowers of different plants
- B. pollination between flowers of the same plants
- C. removal of the anthers from the flower bud
- D. artificial pollination before opening of flower

**Answer: C**



[Watch Video Solution](#)

**9. Triple fusion produces**

- A. polar nucleus

B. secondary nucleus

C. zygotic nucleus

D. primary endosperm nucleus

**Answer: D**



[Watch Video Solution](#)

**10.** Total number of nuclei involved in double fertilization is

A. 2

B. 3

C. 4

D. 5

**Answer: D**



[Watch Video Solution](#)



## Exercise I Post Fertilization Developments And Seed

1. Which one forms the endosperm

- A. antipodals
- B. synergids
- C. secondary nucleus
- D. oosphere

**Answer: C**



[Watch Video Solution](#)

2. Commonly in a mature fertilised ovule  $n$ ,  $2n$  and  $3$  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: B**



[Watch Video Solution](#)

3. Endosperm is formed during the double fertilization by

A. two polar nuclei and one male gamete

B. one polar nuclei and one male gamete

C. ovum and male gamete

D. two polar nuclei and two male gametes

**Answer: A**



[Watch Video Solution](#)

4. Testa of a seed is produced from

- A. ovary wall
- B. hilum
- C. outer integument of ovule
- D. funicle

**Answer: C**



**Watch Video Solution**

5. Study the following statements and select the incorrect option.

- A. Tapetum nourishes the developing pollen grains
- B. Hilum represents the junction between ovule and funicle
- C. In aquatic plants such as water hyacinth and water lily, pollination occurs by water

D. The primary endosperm nucleus is triploid

**Answer: A**



[Watch Video Solution](#)

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

A. Cleavage → Fertilization → Differentiation → Fruit

B. Pollination → Fertilization → Seed → Germination

C. Germination → double fertilization → Endosperm → Seed dispersal

D. Maturation → Mitosis → Embryo → Fertilization

**Answer: B**



[Watch Video Solution](#)

7. Suspensor helps in the

- A. formation of hypophysis cell which forms radicle and root cap
- B. pushing of embryo deep into the endosperm
- C. absorption of food
- D. all of them

**Answer: D**



**Watch Video Solution**

8. Epiblast represents

- A. rudiments of embryonic leaves
- B. scutellum
- C. remains of second cotyledon
- D. mesocotyl

**Answer: C**

 [Watch Video Solution](#)

**9.** Endosperm in angiosperms is formed from secondary nucleus

- A. after fertilization but prior to embryo formation
- B. before fertilization but after embryo formation
- C. after embryo formation
- D. during fertilization

**Answer: A**

 [Watch Video Solution](#)

**10.** Endosperm of angiosperms is different from that of gymnosperms because

- A. angiosperms have fats
- B. endosperm is formed before fertilization
- C. endosperm is not formed before fertilization
- D. it, is diploid

**Answer: C**

 [Watch Video Solution](#)

**11. Coconut has**

- A. central liquid nuclear multinucleated endosperm
- B. helobial endosperm
- C. both (1) and (2)
- D. albuminous endosperm

**Answer: A**

 [Watch Video Solution](#)

12. Number of meiotic divisions required to produce 400 seeds of pea would be

A. 400

B. 800

C. 600

D. 500

**Answer: D**



**Watch Video Solution**

13. The cells of endosperm have 24 chromosomes. What will be number of chromosomes in the gametes.

A. 8

B. 16



C. 72

D. 24

**Answer: A**



[Watch Video Solution](#)

14. The number of chromosomes in radicle is 16. What will be number of chromosomes in pollen tube nucleus, antipodals , secondary nucleus of endosperm respectively ?

A. 8, 8, 16, 24

B. 8, 8, 16, 16

C. 16, 16, 32, 48

D. 8, 8, 16, 48

**Answer: A**



[Watch Video Solution](#)

15. The male gamete is  $x$  and egg is  $3x$ . The ploidy level in embryo and endosperm will be

- A.  $4x$  in embryo and  $4x$  in endosperm
- B.  $4x$  in embryo and  $7x$  in endosperm
- C.  $4x$  in embryo and  $6x$  in endosperm
- D.  $6x$  in embryo and  $12x$  in endosperm

**Answer: B**



[Watch Video Solution](#)

16. In *Pinus*, a gymnosperm, rooting cells have 16 chromosomes. How many chromosomes are present in its endosperm?

- A. 8
- B. 32

C. 48

D. 16

**Answer: A**



**Watch Video Solution**

17. A plant species A has a diploid number of chromosomes as 12. Another plant species B has a diploid chromosome number of 16. The allopolyploid developed by hybridization of A and B shall have a diploid chromosome number as

A. 14

B. 28

C. 40

D. 56

**Answer: B**



**Watch Video Solution**



[Watch Video Solution](#)

18. In a guava fruit there were 300 seeds. How many meiotic divisions must have been involved in the development of this fruit ?

- A. 75
- B. 300
- C. 375
- D. 450

**Answer: C**



[Watch Video Solution](#)

19. Product of sexual reproduction generally generates

- A. New genetic combination leading to variation
- B. Large biomass

C. Longer viability of seeds

D. Prolonged dormancy

**Answer: A**



[Watch Video Solution](#)

## Exercise I Apomixis And Polyembryony

1. What is common between vegetative reproduction and apomixis?

A. Both are applicable to only dicot plants

B. Both bypass the flowering phase

C. Both occur round the year

D. Both produce progeny identical to the parent

**Answer: D**



[Watch Video Solution](#)

2. In a case of polyembryony if an embryo develops from the synergid and another from the nucellus, then the synergid embryo is (i) and nucellar embryo is (ii).



[Watch Video Solution](#)

3. Polyembryony commonly occurs in

- A. banana
- B. tomato
- C. potato
- D. citrus

**Answer: D**



[Watch Video Solution](#)

1. A monocarpic plant is that which

- A. Produces only one
- B. Produce only fruit in its cycle
- C. Has only one carpel in its flower
- D. Flowers only once in its life cycle

**Answer: D**



[Watch Video Solution](#)

2. A flower which never opens and its pollen grains germinate inside the anther and their pollen tubes enter the carpels to fertilise the ovules is called

- A. Polygamous

B. Cleistogamous

C. Cleistocarpic

D. Autogamous

**Answer: B**



**Watch Video Solution**

**3. Subterranean cleistogamous flowers are found in**

A. *Ficus benghalensis*

B. *Commelina benghalensis*

C. *Adina cordifolia*

D. *Anthocephalus cadamba*

**Answer: B**



**Watch Video Solution**



4. The largest flower in the world is that of

- A. Cuscuta
- B. Rafflesia
- C. Loranthus
- D. Drosera

**Answer: B**



**Watch Video Solution**

5. Which is the most logical sequence with reference to the life cycle of angiosperm

- A. Germination, endosperm formation, seed dispersal, double fertilization
- B. Cleavage, fertilization, grafting, fruit formation
- C. Pollination, fertilization seed formation, germination

D. Maturation, mitosis, differentiation, fertilization

**Answer: C**



[Watch Video Solution](#)

6. Pollen grain represents one of the following

A. Zygote

B. Microspore

C. Female gametophyte

D. Male gametophyte

**Answer: B**



[Watch Video Solution](#)

7. The sequence of development of embryo sac is :

A.

Archivesporium  $\rightarrow$  Megaspore  $\rightarrow$  Megasporophyte  $\rightarrow$  Embryo sac

B.

Archivesporium  $\rightarrow$  *Megaspore* to *Megaspore mother cell* to Embryo sac

C.

Archivesporium  $\rightarrow$  Megaspore mother cell  $\rightarrow$  *Megaspore* to Embryo sac

D. None of these

**Answer: C**



[Watch Video Solution](#)

8. In anther culture, some diploid plants were reported with haploids, they have developed from

A. Prothallial cell of pollen grain

B. Generative cell of pollen grain

C. Cells of anther wall

D. Exine of pollen grain

**Answer: C**



[Watch Video Solution](#)

9. In Angiosperms, the functional megaspore of a linear tetrad is the

A. First nearest to the micropyle

B. Second from micropyle

C. Third from micropyle

D. Fourth from micropyle

**Answer: D**



[Watch Video Solution](#)

10. The normal or polygonum type of embryo sac is

- A. Bisporic eight - nucleate
- B. Monosporic four - nucleate
- C. Tetrasporic sixteen - nucleate
- D. Monosporic eight - nucleate

**Answer: D**



[Watch Video Solution](#)

11. Embryo sac is monosporic when it develops from

- A. All the four megaspores
- B. Only from two functional megaspores
- C. Three megaspores

D. One of the megaspores out of the four mega spores which are derived from division of megaspore mother cell

**Answer: D**



[Watch Video Solution](#)

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

- A. Antipodals, synergids and integuments
- B. Egg, nucellus and endosperm
- C. Egg, antipodals and nucellus
- D. Endosperm, nucellus and egg

**Answer: B**



[Watch Video Solution](#)

13. The term xenia denotes the effect of pollen on the

- A. Endosperm
- B. Flower
- C. Somatic tissue
- D. Root

**Answer: A**



**Watch Video Solution**

14. If a pollen of a flower falls on the stigma of another flower belonging to the same plant it is

- A. Ecologically cross - pollination
- B. Genetically and ecologically cross pollination
- C. Genetically self-pollination and ecologically cross-pollination
- D. None of these

**Answer: C**



[Watch Video Solution](#)

**15.** Dichogamy favouring cross-pollination is a type of floral mechanism where

- A. Anthers and stigma are placed at different levels
- B. Stamens and stigmas mature at different times
- C. Structure of anther and stigma act as barrier
- D. Pollen is unable to germinate on its own stigma

**Answer: B**



[Watch Video Solution](#)

**16.** When the pollen grains are not transferred from anthers to the stigma in a flower due to the barrier or fence it is referred as (or when



some natural barrier exists between androecium and gynoecium to check self-pollination, it is known as)

- A. Dichogamy
- B. Herkogamy
- C. Cleistogamy
- D. Heterostyly

**Answer: B**



**Watch Video Solution**

**17.** Entomophilous flowers are

- A. Very large in size
- B. Colourless flowers
- C. Large, coloured, showy and scented flowers
- D. Small flowers

**Answer: C**



**Watch Video Solution**

**18.** A close relation between flower and pollinating agent is best exhibited by

A. Cocos

B. Salvia

C. Yucca

D. Avena

**Answer: C**



**Watch Video Solution**

**19.** The insect *Blastophaga grossorum* is associated with the pollination of

A. Mango

B. Paddy

C. Beans

D. Ficus

**Answer: D**



**Watch Video Solution**

**20.** Fusion of one male gamete with the egg cell and fusion of another male gamete with secondary nucleus is called

A. Fertilisation

B. Double fertilisation

C. Triple fusion

D. Karyogamy

**Answer: B**

 [Watch Video Solution](#)

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

- A. Thigmotactic
- B. Thermotactic
- C. Chemotactic
- D. Phototactic

**Answer: C**

 [Watch Video Solution](#)

22. At which stage one can distinguish between nuclear and cellular type of endosperm?

- A. When divisions start in embryo
- B. When embryo is heart-shaped

C. Just after division of primary endosperm nucleus

D. Mature stage of endosperm

**Answer: C**



**Watch Video Solution**

**23.** Milky water of green tender coconut called coconut milk is

A. Liquid nucellus

B. Liquid of female gametophyte

C. Liquid endosperm

D. Liquid chalaza

**Answer: C**



**Watch Video Solution**

24. Food material in exalbuminous seed is mainly stored in

A. Nucellus

B. Testa

C. Endosperm

D. cotyledons

**Answer: D**



**Watch Video Solution**

25. How many meiosis are required to produce 50 seeds of tobacco?

(a) 62

(b) 100

(c) 63

(d) 50

A. 59

B. 63

C. 109

D. 99

**Answer: B**



[Watch Video Solution](#)

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

A. Diploid

B. Triploid

C. Tetraploid

D. Pentaploid

**Answer: C**



[Watch Video Solution](#)

27. Formation of seed without fertilization is known as

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

**Answer: A**



[Watch Video Solution](#)

28. Apospory is direct formation of

- A. Formation of embryo from egg of an embryo sac developed directly from megaspore mother cell
- B. development of gametophyte directly from the cells of sporophyte without meiosis



C. Formation of embryo from nucellus

D. Formation of embryo from integument

**Answer: B**



[Watch Video Solution](#)

**29.** Apomixis is development of new plant

A. From stem cuttings

B. From root cuttings

C. Without fusion of gametes

D. From fusion of gametes

**Answer: C**



[Watch Video Solution](#)

30. The pollination in Vallisneria is

- A. wind
- B. animals
- C. insects
- D. water

**Answer: D**



[Watch Video Solution](#)

31. The total number of nuclei involved in double fertilisation in angiosperms are

- A. two
- B. three
- C. four
- D. five

**Answer: D**



**Watch Video Solution**

**32.** Dry indehiscent single-seeded fruit formed from bicarpellary syncarpous inferior ovary is

A. Nut

B. Cypsela

C. Caryopsis

D. Achene

**Answer: B**



**Watch Video Solution**

**33.** Which of the following plants are likely to have wide range of distribution?

A. Those distributed by vegetative means

B. Those distributed by fruits

C. Those distributed by seeds

D. Those distributed by spores

**Answer: B**



[Watch Video Solution](#)

**34.** Milky water of green tender coconut called coconut milk is

A. liquid gametes

B. liquid endosperm

C. liquid female gametophyte

D. liquid embryo

**Answer: B**



[Watch Video Solution](#)

**35.** 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**



**Watch Video Solution**

**36.** The edible portion in lotus is

- A. Mesocarp
- B. Endosperm
- C. Cotyledons
- D. young flower stalks.

**Answer: D**

 [Watch Video Solution](#)

**37. Clematis and Narvelia are dispersed by air with the help of**

- A. Bracts
- B. Pappus
- C. Persistant styles
- D. Hairs

**Answer: C**

 [Watch Video Solution](#)

**38.** Parthenocarpy is useless for

- A. Tomato
- B. Pomegranate
- C. Banana
- D. Potato

**Answer: B**



**Watch Video Solution**

**39.** Fruit growers grow two or more varieties of fruits in their orchards to have

- A. Hybridisation and production of new varieties
- B. More income
- C. Less disease

D. Less difficulty in selling the fruits

**Answer: C**

 [Watch Video Solution](#)

**40.** The correct sequence of embryonal development in *Capsella* is

A. Torpedo → Heart shaped → Globular stage

B. Heart shaped → Globular → Torpedo stage

C. Globular → Heart shaped → Torpedo stage

D. Heart shaped → Globular → Torpedo stage

**Answer: C**

 [Watch Video Solution](#)



41. In the young cob of maize, numerous filamentous hair-like structures protruding from its tip are

- A. styles
- B. Hair of seeds
- C. Hairy projections from the bracts
- D. Anthers

**Answer: A**



[Watch Video Solution](#)

### Exercise Iii Previous Aipmt Neet Questions

1. The coconut water from tender coconut represents

- A. free nuclear proembryo
- B. free nuclear endosperm

C. endocarp

D. fleshy mesocarp

**Answer: B**



[Watch Video Solution](#)

2. Which one of the following statements is not true?

A. Pollen grains of many species cause severe allergies.

B. Stored pollen in liquid nitrogen can be used in the crop breeding programmes.

C. Tapetum helps in the dehiscence of anther.

D. Exine of pollen grains is made up of sporopollenin.

**Answer: C**



[Watch Video Solution](#)

3. Which of the following statements is not correct?

- A. Pollen germination and pollen tube growth are regulated by chemical components of pollen interacting with those of the pistil.
- B. Some reptiles have also been reported as pollinators in some plant species
- C. 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.
- D. Insects that consume pollen or nectar without bringing about pollination are called pollen / nectar robbers.

**Answer: C**



[Watch Video Solution](#)

4. Seed formation without fertilisation in flowering plants involves the process of

- A. somatic hybridisation
- B. apomixis
- C. sporulation
- D. budding

**Answer: B**



[Watch Video Solution](#)

5. In majority of angiosperms

- A. egg has a filiform apparatus
- B. there are numerous antipodal cells
- C. reduction division occurs in the megaspore mother cells
- D. a small central cell is present in that embryo sac.

**Answer: C**



**Watch Video Solution**

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

A. water

B. insects or wind

C. birds

D. bats

**Answer: B**



**Watch Video Solution**

7. The ovule of an angiosperm is technically equivalent to

- A. megasporangium
- B. megasporophyll
- C. megaspore mother cell
- D. megaspore

**Answer: A**

 [Watch Video Solution](#)

**8. Filliform apparatus is characteristic of**

- A. aleurone cell
- B. synergids
- C. generative cell
- D. nucellar embryo

**Answer: B**

 [Watch Video Solution](#)

9. In angiosperms, microsporogenesis and megasporogenesis

- A. involve meiosis
- B. occur in ovule
- C. occur in anther
- D. form gametes without further divisions.

**Answer: A**



**Watch Video Solution**

10. Flowers are unisexual in

- A. china rose
- B. onion
- C. pea

D. cucumber

**Answer: D**



**Watch Video Solution**

**11. Coconut water from a tender coconut is**

- A. innermost layers of the seed coat
- B. degenerated nucellus
- C. immature embryo
- D. free nuclear endosperm

**Answer: D**



**Watch Video Solution**

**12. Which one of the following fruits is parthenocarpic?**



A. Jackfruit

B. Banana

C. Brinjal

D. Apple

**Answer: B**



**Watch Video Solution**

**13. Male gaemtophyte in angiosperms produces**

A. single sperm and two vegetative cells

B. three sperms

C. two sperms and a vegetative cell

D. single sperm and a vegetative cell

**Answer: C**



**Watch Video Solution**

14. Which of the following are the important floral rewards to the animal pollinators ?

- A. Floral fragrance and calcium crystals
- B. Protein pellicle and stigmatic exudates
- C. Colour and large size of flower
- D. Nectar and pollen grains

**Answer: D**



[Watch Video Solution](#)

15. Which one of the following may require pollinators but is genetically similar to autogamy

- A. Apogamy
- B. Cleistogamy

C. Geitonogamy

D. Xenogamy

**Answer: C**



**Watch Video Solution**

**16.** Which one of the following statements is not true?

A. The flowers pollinated by flies and beetles secrete foul odour to attract them

B. Honey is made by bees by digesting pollen collected from flowers

C. Pollen grains are rich in nutrients, and they are used in the form of tablets and syrups

D. Pollen grains of some plants cause severe allergies and bronchial afflictions in some people.

**Answer: B**



[Watch Video Solution](#)

17. The hilum is a scar on the

- A. fruit, where style was present
- B. seed, where micropyle was present
- C. seed, where funicle was attached
- D. fruit, where it was attached to pedicel

**Answer: C**



[Watch Video Solution](#)

18. Transmission tissue is characteristic feature of

- A. dry stigma
- B. wet stigma
- C. hollow style

D. solid style

**Answer: D**



**Watch Video Solution**

19. Which one of the following shows isogamy with non-flagellated gametes?

A. Sargassum

B. Ectocarpus

C. Ulothrix

D. Spirogyra

**Answer: D**



**Watch Video Solution**

**20. Geitonogamy involves**

- A. fertilization of a flower by the pollen from another flower of the same plant
- B. fertilization of a flower by the pollen from the same flower
- C. fertilization of a flower by the pollen from a flower of another plant in the same population
- D. fertilization of a flower by the pollen from a flower of another plant belonging to a distant population

**Answer: A**



**Watch Video Solution**

**21. An aggregate fruit is one which develops from**

- A. multicarpellary syncarpous gynoecium

B. multicarpellary apocarpous gynoecium

C. complete inflorescence

D. multicarpellary superior ovary

**Answer: B**



[Watch Video Solution](#)

**22.** Pollen tablets are available in the market for

A. in vitro fertilization

B. breeding programmes

C. supplementing food

D. ex situ conservation

**Answer: C**



[Watch Video Solution](#)

23. Function of filiform apparatus is to

- A. recognize the suitable pollen at stigma
- B. stimulate division of generative cell
- C. produce nectar
- D. guide the entry of pollen tube

**Answer: D**



[Watch Video Solution](#)

24. Non-albuminous seed is produced in

- A. maize
- B. castor
- C. wheat
- D. pea



**Answer: D**



**Watch Video Solution**

**25. Meiosis takes place in**

- A. gemmule
- B. megaspore
- C. meiocyte
- D. conidia

**Answer: C**



**Watch Video Solution**

**26. Seed coat is not thin, membranous in :**

- A. groundnut

B. gram

C. maize

D. coconut

**Answer: C**



**Watch Video Solution**

**27. Peri sperm differs from endosperm in**

A. being a diploid tissue

B. its formation by fusion of secondary nucleus with several sperms

C. being a haploid tissue

D. having no reserve food

**Answer: A**



**Watch Video Solution**

28. Advantage of cleistogamy is

- A. no dependence on pollinators
- B. vivipary
- C. higher genetic variability
- D. more vigorous offspring

**Answer: A**



**Watch Video Solution**

29. Megasporangium is equivalent to

- A. nucellus
- B. ovule
- C. embryo sac
- D. fruit

**Answer: B**



**Watch Video Solution**

**30.** Which one of the following statements is correct?

- A. Endothecium produces the microspores
- B. Tapetum nourishes the developing pollen
- C. Hard outer layer of pollen is called intine
- D. Sporogenous tissue is haploid

**Answer: B**



**Watch Video Solution**

**31.** Product of sexual reproduction generally generates

- A. new genetic combination leading to variation

B. large biomass

C. longer viability of seeds

D. prologed dormancy

**Answer: A**



**Watch Video Solution**

**32. Animal vectors are required for pollination in**

A. Vallisneria

B. mulberry

C. cucumber

D. maize

**Answer: C**



**Watch Video Solution**

33. Albuminous seeds store their reserve food mainly in

- A. endosperm
- B. cotyledons
- C. hypocotyl
- D. perisperm

**Answer: A**



**Watch Video Solution**

34. Megaspores are produced from the megaspore mother cells after

- A. mitotic division
- B. formation of thick wall
- C. differentiation
- D. meiotic division

**Answer: D**



[Watch Video Solution](#)

**35.** Which one of the following statements is correct?

- A. Cleistogamous flowers are always autogamous
- B. Xenogamy occurs only by wind pollination
- C. Chasmogamous flowers do not open at all
- D. Geitonogamy involves the pollen and stigma of flowers of different plants

**Answer: A**



[Watch Video Solution](#)

**36.** Which of the following statements is correct?

- A. Sporopollenin can be degraded by enzymes
- B. Sporopollenin is made up of inorganic materials
- C. Sporopollenin can withstand high temperatures as well as strong acids and alkalis.
- D. Sporopollenin can withstand high temperatures but not strong acids.

**Answer: C**



**Watch Video Solution**

**37. Both autogamy and geitonogamy are prevented in**

- A. papaya
- B. cucumber
- C. castor
- D. maize



**Answer: A**



**Watch Video Solution**

**38.** Which one of the following is correctly matched ?

- A. Onion - Bulb
- B. Ginger - Sucker
- C. Chlamydomonas - Conidia
- D. Yeast - Zoospores

**Answer: A**



**Watch Video Solution**

**39.** Even in absence of pollinating agents seed setting is assured in

- A. Commellina

B. Zostera

C. Salvia

D. fig

**Answer: A**



**Watch Video Solution**

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

A. endosperm

B. endocarp

C. mesocarp

D. embryo

**Answer: A**



**Watch Video Solution**

41. A drupe develops in

A. Mango

B. Wheat

C. Pea

D. Tomato

**Answer: A**



**Watch Video Solution**

42. Wind pollination is common in

A. Legumes

B. Lilies

C. Grasses

D. Orchids

**Answer: C**



**Watch Video Solution**

**43.** In which one of the following pollination is autogamous?

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

**Answer: D**



**Watch Video Solution**

**44.** Nucellar polembryony is reported in species of

- A. Citrus

B. Gossypium

C. Triticum

D. Brassica

**Answer: A**



**Watch Video Solution**

**45.** Filiform apparatus is a characteristic feature of

A. Suspensor

B. Egg

C. Synergid

D. Zygote

**Answer: C**



**Watch Video Solution**

46. Wind pollinated flowers are

- A. Small, brightly coloured, producing large number of pollen grains
- B. Small, producing large number of dry pollen grains
- C. Large producing abundant nectar and pollen
- D. Small, producing nectar and dry pollen

**Answer: B**



[Watch Video Solution](#)

47. The scutellum observed in a grain of wheat or maize is comparable to which part of the seed in other monocotyledons ?

- A. Cotyledon
- B. Endosperm
- C. Aleurone layer
- D. Plumule

**Answer: A**



**Watch Video Solution**

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

- A. Xenogamy
- B. Geitonogamy
- C. Karyogamy
- D. Autogamy

**Answer: B**



**Watch Video Solution**

**49.** Apomictic embryos in Citrus arise from.

- A. Synergids
- B. maternal sporophytic tissue in ovule
- C. Antipodal cells
- D. Diploid egg

**Answer: C**

 [Watch Video Solution](#)

**50.** An example of a seed with endosperm, perisperm and caruncle is

- A. coffee
- B. lily
- C. castor
- D. cotton

**Answer: C**

 [Watch Video Solution](#)



51. Cotyledons and testa respectively are edible parts in

- A. Walnut and tamarind
- B. French bean and coconut
- C. Cashew nut and litchi
- D. Groundnut and pomegranate

**Answer: D**



**Watch Video Solution**

52. Fruit growing from hypanthodium/fruit of fig is

- A. Sorosis
- B. Syconus
- C. Caryopsis

D. Hasperidium

**Answer: B**



[Watch Video Solution](#)

53. Which of the following fruits is chambered , developed from inferior ovary , and has seeds with succulent testa ?

A. Pomegranate

B. Orange

C. Guava

D. Cucumber

**Answer: A**



[Watch Video Solution](#)

54. What does the filiform apparatus do at the entrance into ovule?

- A. It helps in the entry of pollen tube into a synergid
- B. It prevents entry of more than one pollen tube into the embryo sac
- C. It brings about opening of the pollen tube
- D. It guides pollen tube from a synergid to egg

**Answer: A**



[Watch Video Solution](#)

55. Unisexuality of flowers prevents

- A. Autogamy, but not geitonogamy
- B. Both geitonogamy and xenogamy
- C. Geitonogamy, but not xenogamy
- D. Autogamy and geitonogamy

**Answer: A**



**Watch Video Solution**

**56.** Fleshy receptacle of the syconus of fig encloses a number of

A. Achenes

B. Samaras

C. Berries

D. Mericarps

**Answer: A**



**Watch Video Solution**

**57.** Dry indehiscent single-seeded fruit formed from bicarpellary syncarpous inferior ovary is

A. Caryopsis

B. Cypsela

C. Berry

D. Cremocarp

**Answer: B**



**Watch Video Solution**

**58.** Endosperm is consumed by developing embryo in the seed of

A. Coconut

B. Castor

C. Pea

D. Maize

**Answer: C**



**Watch Video Solution**

59. Male gametes in angiosperms are formed by

- A. Generative cell
- B. Vegetative cell
- C. Microspore mother cell
- D. Microspore

**Answer: A**



**Watch Video Solution**

60. Which one of the following pairs of plant structures has haploid number of chromosomes?

- A. Megaspore mother cell and antipodal cells
- B. Egg cell and antipodal cells
- C. Nucelus and antipodal cells

D. Egg nucleus and secondary nucleus

**Answer: D**



**Watch Video Solution**

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

A. Male gamete

B. egg

C. Pollen grain

D. Microspore mother cell

**Answer: D**



**Watch Video Solution**