



BIOLOGY

BOOKS - AAKASH SERIES

SEXUAL REPRODUCTION IN FLOWERING PLANTS



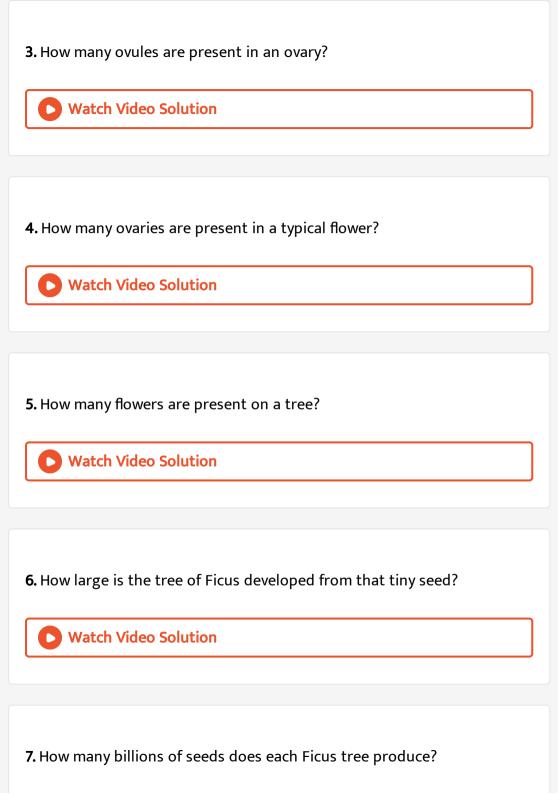
1. How many cells are there in an embryo sac?



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





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8. You imagine any other example in which such a tiny structure can
produce such a large biomass over the years?
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9. What is fruit production without fertilization called?

Exercise I Introduction Microsporophyll Anther Male Gametophyte

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A. Leaves

B. Branches

1. Flower organs have evolved from modified

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



3. Male gametes are formed by
A. vegetative cell
B. tube cell
C. generative cell
D. pollen tube
A
Answer: A
Watch Video Solution
Water video solution
Water video solution
4. How many nuclei are present in a mature pollen?
4. How many nuclei are present in a mature pollen?
4. How many nuclei are present in a mature pollen? A. 1
4. How many nuclei are present in a mature pollen? A. 1 B. 7

Answer: A



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- 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



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6. The exine of a pollen grain is composed of one of the most resistant biological matieral 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



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- 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



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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



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- 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



- 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



- 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

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
Answer: D Watch Video Solution
Watch Video Solution

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

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

\Box	10
IJ.	40

Answer: A



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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



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 iin a straight vertical line, it is known as	
A. orthotropous	

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

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Answer: A

5. Ovule is inverted (resupinates at 180°) 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
- $B.\ or thotropous$
- C. anatropous
- D. campylotropous

Answer: C



- **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

Answer: A

cytokinesis does not take place

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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



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11. Which of the following is haploid?

A. Style

B. Ovary

D. Primary endosperm nucleus
Answer: C
Watch Video Solution
2. Filliform apparatus is characteristic of
A. synergids
B. egg
C. anther wall
D. antipodal cells
Answer: A
Watch Video Solution

C. Synergids

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

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

Answer: D

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

Answer: D

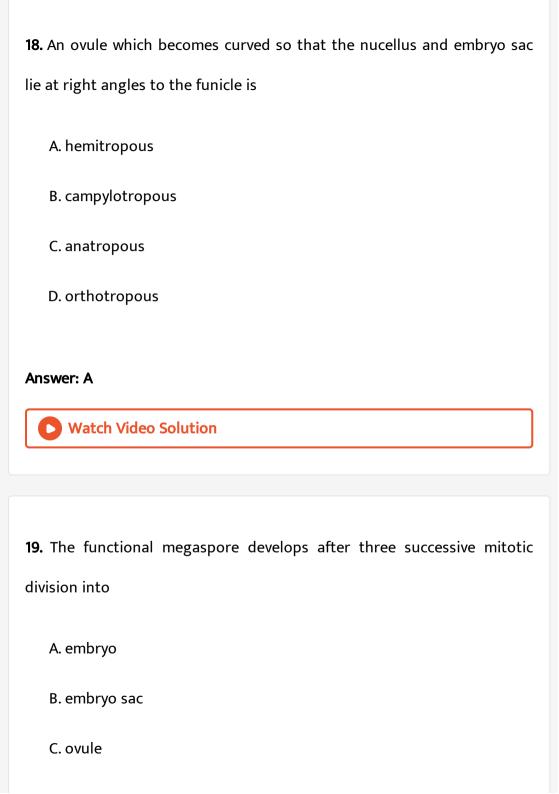


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- 17. What does the filiform apparatus do at the entrance into ovule?
 - A. it brings about opening of the pollen tube
 - B. it guides pollen tube from a synergid to egg
 - C. it helps in the entry of pollen tube into a synergid
 - D. it prevents entry of more than one pollen tube into the embryo sac

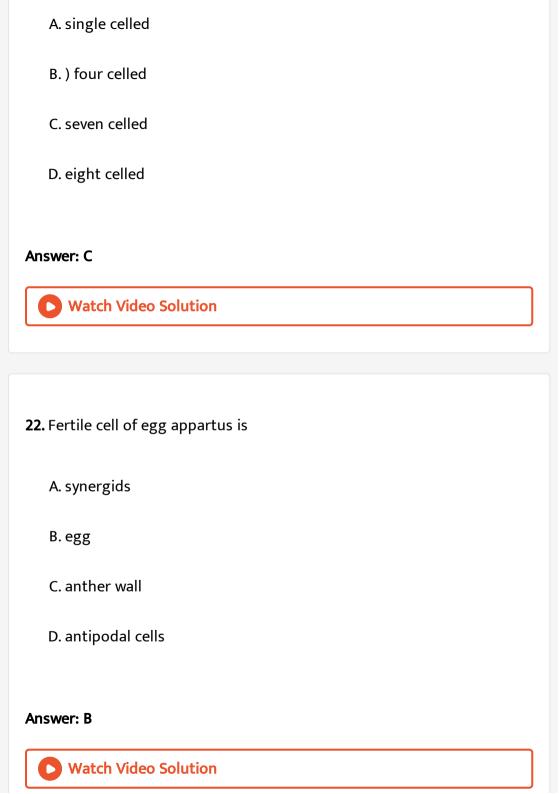
Answer: C

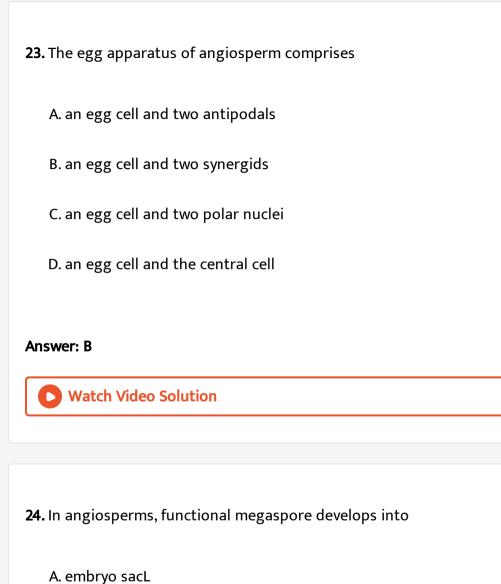




D. zygote
Answer: B
Watch Video Solution
O. Chiropterophily means
A. pollination by snails
B. pollination by bats
C. pollination by wind
D. pollination by insects
Answer: B

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





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



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Exercise I Pollination

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

Watch Video Solution 3. Subterranean clesitogamous 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

Answer: C

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

B. protandry

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**



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



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12. Pollination by snail and slug is known as

A. ornithophilous

B. chiropterophilous

- C. entomophilous

 D. melacophilous
- **Answer: B**

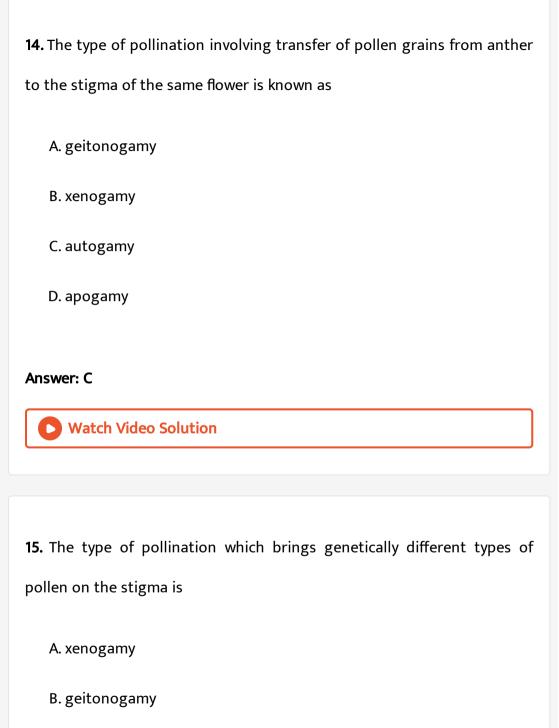


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- 13. Advantage of cleistogamy is
 - A. it leads to greater genetic diversity
 - B. seed dispersal is more efficient and wides pread
 - C. seed set is not dependent on pollinators
 - D. each visit of a pollinator results in trasfer ofhundreds of pollen grains

Answer: C





C. chasmogamy

D. autogamy
Answer: A
Watch Video Solution
6. 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 rahthers to stigma in a flower, due to the physical barrier, it is called

A. cleistogamy

C. dichogamy

B. herkogamy

D. heterogamy

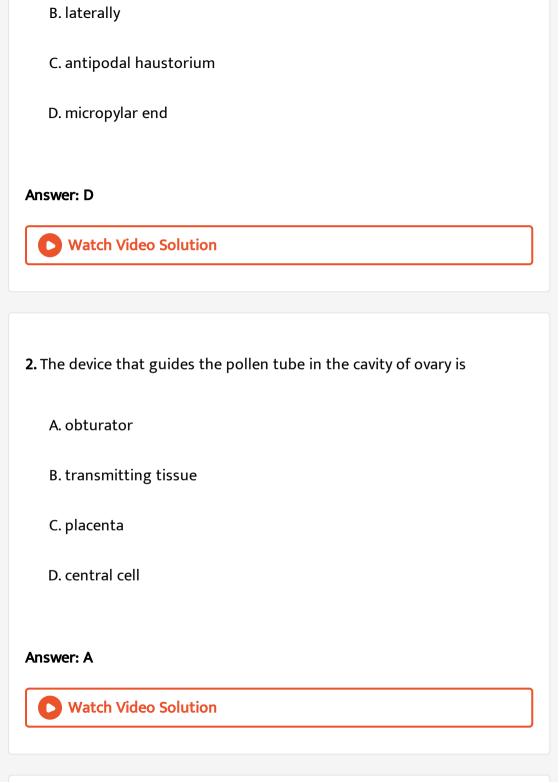
Answer: B



Exercise I Pollen Pistil Interactions And Fertilization

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

A. chalazal end



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



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- 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 7two 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



6.	Identify	the	wrong	statements	regarding	post	fertilisation
de	velopment						
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- 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



- 7. The entry of pollen tube into the ovule through micropyle is called
 - A. porogamy
 - B. mesogamy
 - C. anisogamy
 - D. chalazogamy

Answer: A



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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



- 9. Triple fusion produces
 - A. polar 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

B. secondary nucleus

Exercise I Post Fertilization Developments And Seed

1.	Which	one f	orms	the	endosį	perm

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

Answer: C



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 endospem

- C. ndosperm, 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



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



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- **6.** A natural sequence of developmental stages in the life cycle of an angiosperm is
 - A. Cleavage $\,
 ightarrow\,$ Fertilizatin $\,
 ightarrow\,$ Differentiation $\,
 ightarrow\,$ Fruit
 - B. Pollination $\,\,
 ightarrow\,\,$ Fertilization $\,\,
 ightarrow\,\,$ Seed $\,\,
 ightarrow\,\,$ Germination
 - C. Germination ightarrow double fertilization ightarrow Endosperm ightarrow Seed

dispersal

D. Maturation $\, o \,$ Mitosis $\, o \,$ Embryo $\, o \,$ Fertilization

Answer: B



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



- 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

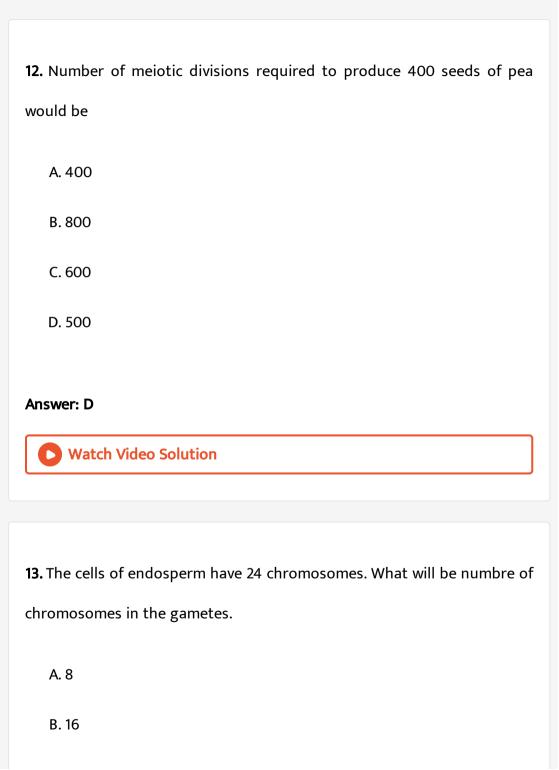


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10. Endosperm of angiosperms is different from that of gymnosperms because

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**

A. angiosperms have fats



C. 72

D. 24

Answer: A



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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



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



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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



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17. A plant species A has a diploid number of chromosomes as 12. Another plant species B has a diploid chromosome number off 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



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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



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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**

A. Both are applicable to only dicot plants

1. What is common between vegetative reproduction and apomixis?

- B. Both bypass the flowering phase

C. Both occur round the year

D. Both produce progeny identical to the parent

Answer: D



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



Watch Video Solution

3. Polyembryony commonly occurs in

A. banana

B. tomato

C. potato

D. citrus

Answer: D



1.	Α	monocarp	oic	plant	is	that	which
•••	٠.	1110110 Cai	,	Piane		ciiac	vviiicii

- 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

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**

B. Cleistogamous

C. Cleistocarpic

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 refernce 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.

Archesporium o Megaspore o Megasporophyte o Embryo sac

B.

Archesporium $\rightarrow Megasp$ or e to Megasp or emothercell to E

C.

Archesporium \rightarrow Megaspore mother cell \rightarrow Megasp or e to Embr

D. None of these

Answer: C



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

A. Prothallial cell of pollen grain

B. Generative cell of pollen grain

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

C. Cells of anther wall

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



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



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

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

Answer: C



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

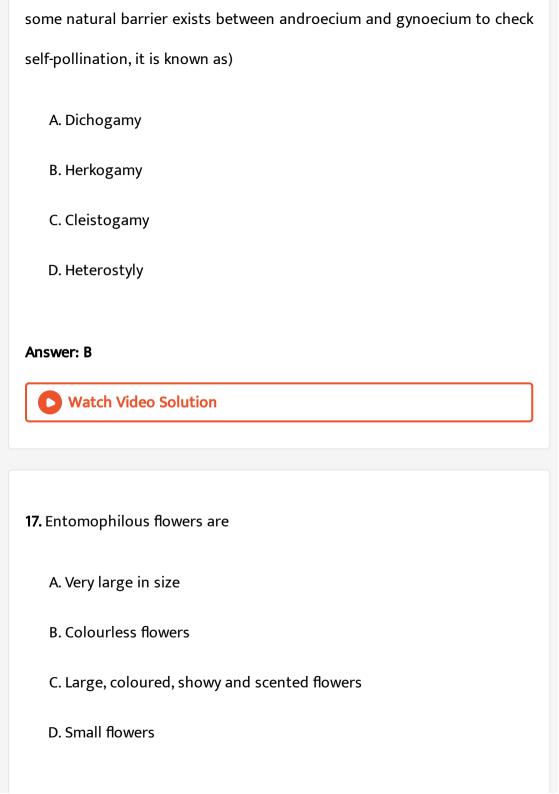
- A. Anthers and stigma are placed at different levels
- B. Stamens and stigmas mature at different times
- C. Structure of anther and stigma act as barrier
- D. Pollen is unable to germinate on its own stigma

Answer: B

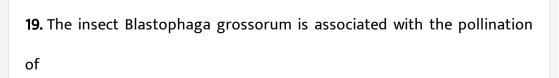


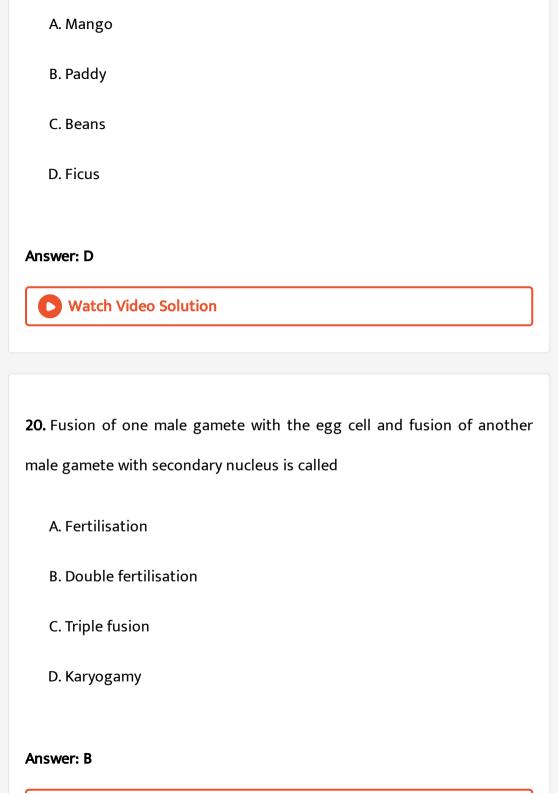
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16. When the pollen grains are not transferred from anthers to the stigma in a flower due to the barrier or fence it is referred as (or when



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







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

A. Thigmotactic

B. Thermotactic

C. Chemotactic

D. Phototactic

Answer: C



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

A. When divisions start in embryo

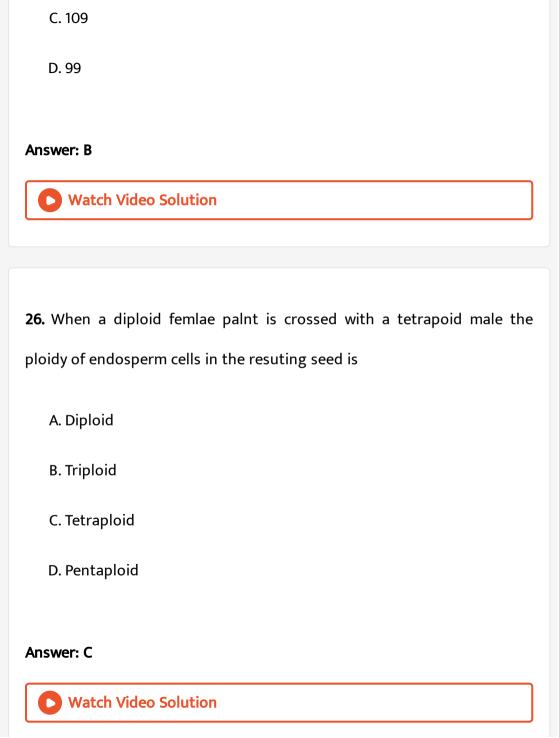
B. When embryo is heart-shaped

- C. Just after division of primary endosperm nucleus D. Mature stage of endosperm **Answer: C Watch Video Solution** 23. Milky water of green tender conconut called coconut milk is
- - A. Liquid nucellus
 - B. Liquid of female gametophyte
 - C. Liquid endosperm
 - D. Liquid chalaza

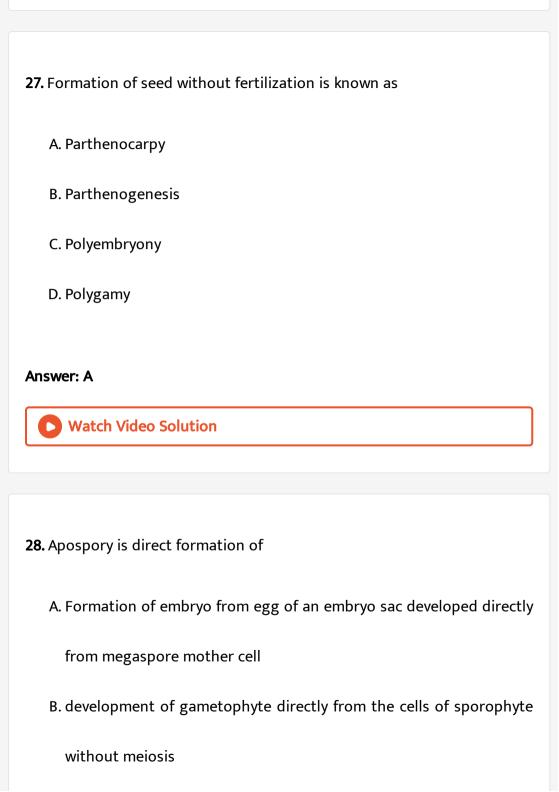
Answer: C



24. Food material in exalbuminous seed is mainaly 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?
25. How many meiosis are required to produce 50 seeds of tobacco?(a) 62
(a) 62
(a) 62 (b) 100



B. 63



- C. Formation of embryo from nucellus
- D. Formation of embryo from integument

Answer: B



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- 29. Apomixis is deveolpment of new plant
 - A. From stem cuttings
 - B. From root cuttings
 - C. Without fusion of gametes
 - D. From fusion of gametes

Answer: C



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
angiosperms are
angiosperms are A. two

Answer: D



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

- A. Nut
- B. Cypsela
- C. Caryopsis
- D. Achene

Answer: B



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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 conconut 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 funcile touches the ovule is called raphe
A. A and D only

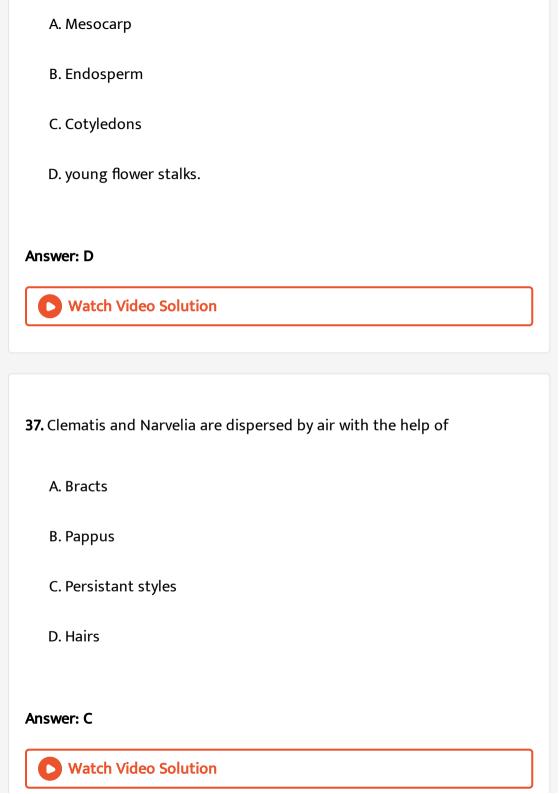


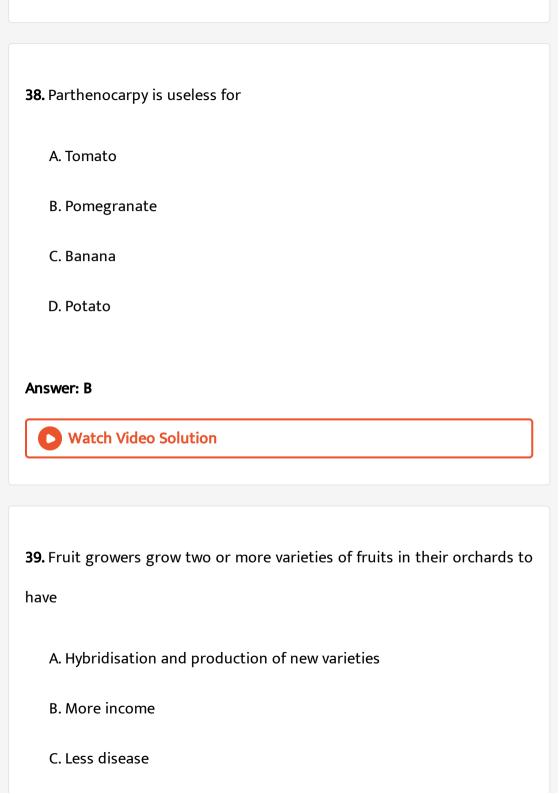
B. A and B only

D. A and C only

Answer: D







D. Less difficulty in selling the fruits

Answer: C



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- 40. The correct sequence of embryonal development in Capsella is
 - A. Torpedo $\;
 ightarrow\;$ Heart shaped $\;
 ightarrow\;$ Globular stage
 - B. Heart shaped $\ o$ Globular $\ o$ Torpedo stage
 - C. Globular $\;
 ightarrow\;$ Heart shaped $\;
 ightarrow\;$ Torpedo stage

Answer: C



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



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**



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- 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



- **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



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

A. somatic hybridisation

B. apomixis

C. sporulation

D. budding

Answer: B



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5. In majority of angiosperms

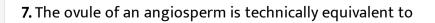
A. egg has a filiform apparatus

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

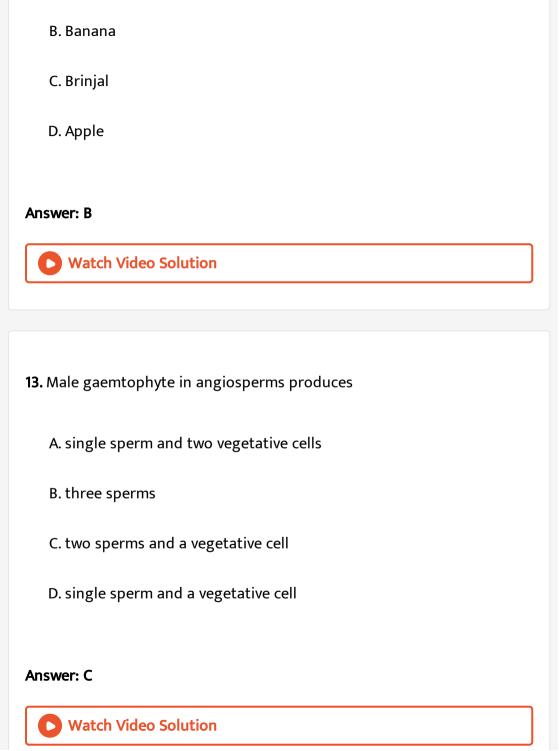


A. megasporangium B. megasporophyll C. megaspore mother cell D. megaspore Answer: A **Watch Video Solution** 8. Filliform apparatus is characteristic of A. aleurone cell B. synergids C. generative cell D. nucellar embryo **Answer: B Watch Video Solution**

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
10. Flowers are unisexual in A. china rose
A. china rose

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
2. Which one of the following fruits is parthenocarpic?

D. cucumber



A. Jackfruit

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



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



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

Watch Video Solution

Answer: D

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



- 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

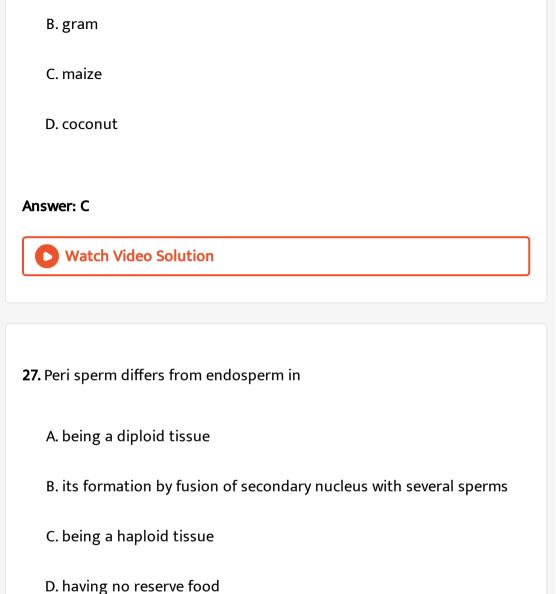
Answer: C



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

23. Function of filiform apparatus is to

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



Answer: A

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
29. Megasporangium is equivalent to A. nucellus
A. nucellus
A. nucellus B. ovule

Answer: B



- **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



- **31.** Product of sexual reproduction generally generates
 - A. new genetic combination leading to variation

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

B. large biomass

33. Albuminous seeds store their reserve food mainly in
A. endosperm
B. cotyledons
C. hypocotyl
D. perisperm
Answer: A
Watch Video Solution
34. Megasproes are produced from the megasproe mother cells afer
A. mitotic division
B. formation of thick wall
2. Termination of times than
C. differentiation

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



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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 tempe ratures as well as strong acids and alkalis. D. Sporopollenin can withstand high tempe ratures 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
42. Wind pollination is common in A. Legumes
A. Legumes
A. Legumes B. Lilies

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. Nucelllar 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

D. Plumule

C. Aleurone layer

Answer: A



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
Answer: D Watch Video Solution
Watch Video Solution

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



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- 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



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

- A. Achenes
- B. Samaras
- C. Berries
- D. Mericarps

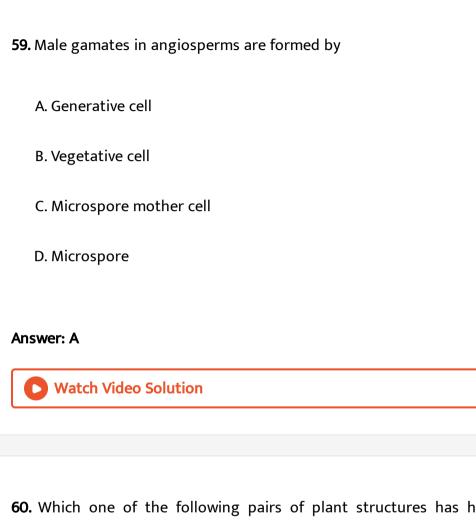
Answer: A



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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



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

nswer: D
Watch Video Solution
I. Which one of the following is surrounded by a callose wall?
A. Male gamete
B. egg
C. Pollen grain
D. Microspore mother cell
nswer: D
Watch Video Solution

D. Egg nucleus and secondary nucleus