



BIOLOGY

BOOKS - KUMAR PRAKASHAN KENDRA

BIOLOGY (GUJRATI ENGLISH)

**SEXUAL REPRODUCTION IN
FLOWERING PLANTS**

Section A

1. Give importance of sexual reproduction in plants



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Section A Flower A Fascinating Organ Of Angiosperms

1. Mention social, religious and cultural value of the flowers



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2. Explain flower is a condensed shoot



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3. Describe organs/parts of a typical flower



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Section A Pre Fertilization Structures And Events

1. Give information about prefertilisation structures and events



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2. Describe internal structure of anther by mentioning about typical stamen



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3. Describe internal structure of microsporangium



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4. Where the pollengrains are develop in anther during microsporogenesis?



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5. Describe the structure of pollen grain and explain the development of male gametophyte in it



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6. Give products of pollen grain and their uses



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7. Mention about the viability of pollen grain



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8. Describe about pistil (gynoecium)



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**9. Describe the structure of Megasporangium
with a diagram**



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10. Explain about Embryo sac



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11. What is pollination? Describe its types



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12. Mention about agents of pollination and explain pollination by wind.



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13. Write a note on characteristics of plants pollinated by water



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14. Explain pollination by animals with examples in detail



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15. Explain what are outbreeding devices. Give its importance



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16. Describe pollen-pistil interaction



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17. Give information about compatible and incompatible pollen



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18. Describe the method of artificial hybridisation



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Section A Double Fertilization

1. Explain double fertilisation angiosperms



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Section A Post Fertilisation Structures And Events

1. What is endosperm? Describe types of endosperm



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2. What is embryo? Explain structure of monocot and dicot embryo.



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3. Explain about seed



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4. Explain structure of fruit and give information about its types



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5. Give importance of seed



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Section A Apomixis And Poly Embryony

1. What is Apomixis? Give its importance



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Section B Difference Scientific Reasons

1. Accessory whorls and Essential Whorls



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2. Stamen and Pistil



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3. Identify each part in a flowering plant and write whether it is haploid (n) or diploid ($2n$).

(a) Ovary

(b) Anther

(c) Egg

(d) Pollen

(e) Male gamete

(f) Zygote



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4. Describe the structure of Megasporangium with a diagram



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5. Differentiate between microsporogenesis and megasporogenesis. Which type of cell division occurs during these events? Name the structure formed at the end of these two events



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6. Describe the structure of pollen grain and explain the development of male gametophyte in it





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7. False Fruit and True Fruit



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Section B Give Scientific Reasons

1. The flower possesses religious, cultural and scientific value



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2. Explain what are outbreeding devices. Give its importance



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3. Artificial hybridisation is one of the major approaches of crop improvement programme



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4. Two types of fusions, syngamy and triple fusion take place in embryo sac



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5. If hybrids are made into apomicts it will be boon to farmers



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Section C Objective Questions Answers

1. Match the following columns

Column - I		Column - II	
(a)	The outer most whorl of the flower	(w)	Corolla
(b)	The second accessory whorl of flower	(x)	Calyx
(c)	The essential outer whorl of flower	(y)	Pistil (Gynoecium)
(d)	The inner most whorl of flower	(z)	Stamen (Androecium)



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2. Match the following columns

Column - I		Column - II	
(a)	Animophili	(i)	By water
(b)	Hydrophili	(ii)	By wind
(c)	Zoophili	(iii)	By insects
(d)	Antemophili	(iv)	By animals



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Column - I		Column - II	
(a)	Sex cell of embryo sac	(i)	Synergid cells

3.

(b)	Synergid cell of sex reproduction of embryo sac	(ii)	Antipodal cells
(c)	Cell opposite to sex cell of embryo sac	(iii)	Egg cells
(d)	The central cell of embryo sac	(iv)	Secondary nucleus



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Section C Definations Explanation

1. Which among the following is applicable to tapetum?

(A) Protective layer

(B) Nourishing layer

(C) Vestigial part

(D) None of the above



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2. The ovule is attached to the placenta by a small stalk which is known as

(A) Hilum

(B) Funicle

(C) Nucellus

(D) Chalaza



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3. Define:- Micropyle



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4. Define :- Chalaza



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5. Define:- Geitonogamy



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6. Define:- Coleorrhiza



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7. In some seeds such as black pepper and beet nucellus may be persistent. Such nucellus is known as :



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8. Define :- Chalaza



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9. Define :- Nucellus



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10. Explain about Embryo sac



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11. What is meant by monosporic development of female gametophyte ?



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12. Egg apparatus is present on

(A) micropylar end

(B) chalazal end

(C) hilum

(D) funicle



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13. Filiform apparatus is a characteristic feature of



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14. Choose the correct statement from the following

(A) Cleistogamous flowers always exhibit autogamy

(B) Chasmogamous flowers always exhibit geitonogamy

(C) Cleistogamous flower exhibit both autogamy and geitonogamy

(D) Chasmogamous flowers never exhibit autogamy



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15. Choose the correct statement from the following

(A) Cleistogamous flowers always exhibit autogamy

(B) Chasmogamous flowers always exhibit geitonogamy

(C) Cleistogamous flower exhibit both autogamy and geitonogamy

(D) Chasmogamous flowers never exhibit autogamy



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16. Choose the correct statement from amongst the following :

(A) Dioecious (hermaphrodite) organisms are seen only in animals. (B) Dioecious organisms are seen only in plants (C) Dioecious organisms are seen in both plants and animals. (D) Dioecious organisms are seen only in vertebrates.



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17. Non albuminous seed.



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18. What is Apomixis? Give its importance



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19. Which of the following indicates the development of ovary into fruits without the stimulation of fertilization ?

(A) Incompatibility

(B) Parthenogenesis

(C) Polyembryony

(D) Parthenocarpy



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Section C Location And Function

1. Endothecium



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2. Which of the following is not correct?

(A) outer layer of pollen grain is made up of sporopollenin

(B) Pollen grain of many species cause strong allergy

(C) Pollen grain stored in liquid nitrogen can be used in crop breeding programme

(D) Tapetum helps in dehiscence of anther



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3. What do the followings parts of a flower develop into after fertillsation ? (a) Ovary (b) Ovules.



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4. Write short note on Placenta.



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5. Define :- Nucellus



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6. Filiform apparatus is a characteristic feature of



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7. Why does the zygote begin to divide only after the division of Primary Endosperm Cell (PEC)?



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Section D Textual Exercise

1. Name the parts of an angiosperm flower in which development of male and female gametophyte take place



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2. Differentiate between microsporogenesis and megasporogenesis. Which type of cell division occurs during these events? Name the

structure formed at the end of these two events



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3. Arrange the following terms in the correct developmental sequence: pollen grain, sporogenous tissue, microspore tetrad, pollen mother cell, male gametes



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4. With a neat, labelled diagram describe the parts of a typical angiosperm ovule



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5. What is meant by monosporic development of female gametophyte ?



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6. With a neat diagram explain the 7-celled, 8-nucleate nature of the female gametophyte



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7. What are chasmogamous flower? Can cross pollination occur in cleistogamous flowers?
Give reasons for your answer



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8. Mention two strategies evolved to prevent self pollination in flowers



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9. What is self-incompatibility ? Why does self pollination not lead to seed formation in self incompatible species?



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10. What is bagging technique? How is it useful in a plant breeding programme?



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11. What is triple fusion? Where and how does it take place? Name the nuclei involved in triple fusion



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12. What do you think the zygote is dormant for sometime in a fertilised ovule?



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13. Differentiate between : (a) Hypocotyl and Epicotyl (b) Coleoptile and Coleorrhiza
(c) Integuments and Testa (d) Perisperm and Pericarp



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14. Why is apple called a false fruits? Which part (s) of the flower forms the fruit?



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15. What is meant by emasculation ? When and why does a plant breeder employ this technique?



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16. If one can induce parthenocarpy through the application of growth substances, which fruits would you select to induce parthenocarpy and why?



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17. Explain the role of tapetum in the formation of pollen grain wall



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18. What is Apomixis? Give its importance



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Section E Solution Of Ncert Exemplar Multiple Choice Questions

1. Among the terms listed below, those that are not technically correct names for a floral whorl are: (i) Androecium (ii) Carpel (iii) Corolla (iv) Sepal

(A) i and iv

(B) iii and iv

(C) ii and iv

(D) i and ii

A. i and iv

B. iii and iv

C. ii and iv

D. i and ii

Answer: C



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2. Embryo sac is to ovule asis to an anther

(A) stamen

(B) Filament

(C) Pollen grain

(D) Androecium

A. stamen

B. Filament

C. Pollen grain

D. Androecium

Answer: C



3. In a typical complete, bisexual and hypogynous flower, the arrangement of floral whorls on the thalamus from the outermost to the innermost is

- (A) Calyx, corolla, androecium and gynoecium
- (B) Calyx, corolla, gynoecium and androecium
- (C) Gynoecium, androecium, corolla and calyx
- (D) Androecium, gynoecium, corolla and calyx

A. Calyx, corolla, androecium and gynoecium

B. Calyx, corolla, gynoecium and androecium

C. Gynoecium, androecium, corolla and calyx

D. Androecium, gynoecium, corolla and calyx

Answer: A



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4. A dicotyledonous plant bears flowers but never produces fruits and seeds. The most probable cause for the above situation is

(A) Plant is dioecious and bears only pistillate flowers

(B) Plant is dioecious and bears both pistillate and staminate flower

(C) Plant is monoecious

(D) Plant is dioecious and bears only staminate flowers

- A. Plant is dioecious and bears only pistillate flowers
- B. Plant is dioecious and bears both pistillate and staminate flower
- C. Plant is monoecious
- D. Plant is dioecious and bears only staminate flowers

Answer: D



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5. The outermost and innermost wall layers of microsporangium in an anther are respectively

(A) Endothecium and tapetum

(B) Epidermis and endodermis

(C) Epidermis and middle layer

(D) Epidermis and tapetum

A. Endothecium and tapetum

B. Epidermis and endodermis

C. Epidermis and middle layer

D. Epidermis and tapetum

Answer: D



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6. During microsporogenesis, meiosis occurs in

(A) Endothecium

(B) Microspore mother cells

(C) Microspore tetrads

(D) Pollen grains

A. Endothecium

B. Microspore mother cells

C. Microspore tetrads

D. Pollen grains

Answer: B



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7. From among the sets of terms given below, identify those that are associated with the gynoecium

(A) Stigma, ovule, embryo sac, placenta

(B) Thalamus, pistil, style, ovule

(C) Ovule, ovary, embryo sac, tapetum

(D) Ovule, stamen, ovary, embryo sac

A. Stigma, ovule, embryo sac, placenta

B. Thalamus, pistil, style, ovule

C. Ovule, ovary, embryo sac, tapetum

D. Ovule, stamen, ovary, embryo sac

Answer: A



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8. Starting from the innermost part, the correct sequence of parts in an ovule are

(A) egg, nucellus, embryo sac, integument

(B) egg, embryo sac, nucellus, integument

(C) embryo sac, nucellus, integument, egg

(D) egg, integument, embryo sac, nucellus

A. egg, nucellus, embryo sac, integument

B. egg, embryo sac, nucellus, integument

C. embryo sac, nucellus, integument, egg

D. egg, integument, embryo sac, nucellus

Answer: B



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9. From the statements given below choose the option that are true for a typical female gametophyte of

- (i) It is 8-nucleate and 7-celled at maturity
- (ii) It is free-nuclear during the development.
- (iii) It is situated inside the integument but outside the nucellus.
- (iv) It has an egg apparatus situated at the

chalazal end

(A) i and iv

(B) ii and iii

(C) i and ii

(D) ii and iv

A. i and iv

B. ii and iii

C. i and ii

D. ii and iv

Answer: C



10. Autogamy can occur in a chasmogamous flower if

(A) Pollen matures before maturity of ovule

(B) Ovules mature before maturity of pollen

(C) Both pollen and ovules mature simultaneously

(D) Both anther and stigma are of equal lengths

A. Pollen matures before maturity of ovule

B. Ovules mature before maturity of pollen

C. Both pollen and ovules mature simultaneously

D. Both anther and stigma are of equal lengths

Answer: C



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11. Choose the correct statement from the following

(A) Cleistogamous flowers always exhibit autogamy

(B) Chasmogamous flowers always exhibit geitonogamy

(C) Cleistogamous flower exhibit both autogamy and geitonogamy

(D) Chasmogamous flowers never exhibit autogamy

A. Cleistogamous flowers always exhibit autogamy

B. Chasmogamous flowers always exhibit geitonogamy

C. Cleistogamous flower exhibit both autogamy and geitonogamy

D. Chasmogamous flowers never exhibit autogamy

Answer: A



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12. A particular species of plant produces light, non-sticky pollen in large numbers and its stigmas are long and feathery. These modifications facilitate pollination by

(A) Insects

(B) Water

(C) Wind

(D) Animals

A. Insects

B. Water

C. Wind

D. Animals

Answer: C



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13. From among the situations given below, choose the one that prevents both autogamy and geitonogamy

(A) Monoecious plant bearing unisexual flowers

(B) Dioecious plant bearing only male or female flowers

(C) Monoecious plant with bisexual flowers

(D) Dioecious plant with bisexual flowers

A. Monoecious plant bearing unisexual flowers

B. Dioecious plant bearing only male or female flowers

C. Monoecious plant with bisexual flowers

D. Dioecious plant with bisexual flowers

Answer: B



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14. In a fertilised embryo sac, the haploid, diploid, and triploid structure are

(A) Synergid, zygote and primary endosperm nucleus

(B) Synergid, antipodal and polar nuclei

(C) Antipodal, synergid and primary endosperm nucleus

(D) Synergid, polar nuclei and zygote

A. Synergid, zygote and primary endosperm nucleus

B. Synergid, antipodal and polar nuclei

C. Antipodal, synergid and primary endosperm nucleus

D. Synergid, polar nuclei and zygote

Answer: A



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15. In an embryo sac, the cells that degenerate after fertilisation are

(A) Synergids and primary endosperm cell

(B) Synergids and antipodals

(C) Antipodals and primary endosperm cell

(D) Egg and antipodals

A. Synergids and primary endosperm cell

B. Synergids and antipodals

C. Antipodals and primary endosperm cell

D. Egg and antipodals

Answer: B



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16. While planning for an artificial hybridization programme involving dioecious plants, which of the following steps would not be relevant ?

- (A) Bagging of female flower
- (B) Dusting pollen on stigma
- (C) Emasculation
- (D) Collection of pollen

A. Bagging of female flower

B. Dusting pollen on stigma

C. Emasculation

D. Collection of pollen

Answer: C



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17. In the embryos of a typical dicot and a grass, true homologous structures are

(A) Coleorhiza and coleoptile

(B) Coleoptile and scutellum

(C) Cotyledons and scutellum

(D) Hypocotyl and radicle

A. Coleorhiza and coleoptile

B. Coleoptile and scutellum

C. Cotyledons and scutellum

D. Hypocotyl and radicle

Answer: C



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18. The phenomenon observed in some plants where in parts of the sexual apparatus is used for forming embryos without fertilisation is called

- (A) Parthenocarpy
- (B) Apomixis
- (C) Vegetative propagation
- (D) Sexual reproduction

A. Parthenocarpy

B. Apomixis

C. Vegetative propagation

D. Sexual reproduction

Answer: B



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19. In a flower, if the megaspore mother cell forms megaspores without undergoing meiosis and if one of the megaspores developos into an embryo sac, its nuclei would be

(A) Haploid

(B) Diploid

(C) A few haploid and a few diploid

(D) With varying ploidy

A. Haploid

B. Diploid

C. A few haploid and a few diploid

D. With varying ploidy

Answer: B



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20. The phenomenon wherein, the ovary develops into a fruit without fertilisation is called

- (A) Parthenocarpy
- (B) Apomixis
- (C) Asexual reproduction
- (D) Sexual reproduction

A. Parthenocarpy

B. Apomixis

C. Asexual reproduction

D. Sexual reproduction

Answer: A



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Section E Solution Of Ncert Exemplar Very Short Answer Type Questions

1. Name the component cells of the egg apparatus in an embryo sac



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2. Name the part of gynoecium that determines the compatible nature of pollen grain



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3. Name the common function that cotyledons and nucellus perform



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4. Complete the following flow chart Pollen

Mother cell \rightarrow Pollen tetrad \rightarrow



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5. Indicate the stages where meiosis and mitosis occur (1, 2 or 3) in the flow chart.

Megaspore mother cell $\xrightarrow{1}$ Megaspores
 $\xrightarrow{2}$ Embryo sac $\xrightarrow{3}$ Egg



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6. In the diagram given below, show the path of a pollen tube from the pollen on the stigma into the embryo sac. Name the components of egg apparatus





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7. Name the parts of pistil which develop into fruit and seeds



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8. In case of polyembryony, if an embryo develops from the synergid and another from the nucellus which is haploid and which is diploid ?



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9. Can an unfertilised, apomictic embryo sac give rise to a diploid embryo ? If yes, then how ?



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10. Which are the three cells found in a pollen grain when it is shed at the three celled stage?



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11. What is self-incompatibility ? Why does self pollination not lead to seed formation in self incompatible species?



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12. Name the type of pollination in self-incompatible plants



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13. With a neat diagram explain the 7-celled, 8-nucleate nature of the female gametophyte



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14. Which is the triploid tissue in a fertilised ovule? How is the triploid condition achieved?



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15. Are pollination and fertilisation necessary in apomixis ? Give reasons



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16. Identify the type of carpel with the help of diagrams given below



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17. How is pollination carried out in water plants?



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18. What is the function of the two male gametes produced by each pollen grain in angiosperms



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Section E Solution Of Ncert Exemplar Short Answer Type Questions

1. List three strategies that a bisexual chasmogamous flower can evolve to prevent self pollination (autogamy)



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2. Given below are the events that are observed in an artificial hybridization programme. Arrange them in the correct

sequential order in which they are followed in the hybridisation programme. (a) Re-bagging (b) Selection of parents (c) Bagging (d) Dusting the pollen on stigma (e) Emasculation (f) Collection of pollen from male parent



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3. Vivipary automatically limits the number of offsprings in a litter. How ?



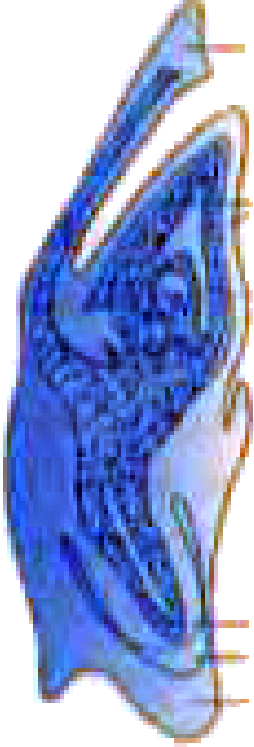
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4. Does self incompatibility impose any restrictions on autogamy ? Give reason and suggest the method of pollination in such plants



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5. In the given diagram, write the names of parts shown with lines.



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6. What is polyembryony and how can it be commercially exploited?





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7. Are parthenocarpy and apomixis different phenomena? Discuss their benefits



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8. Why does the zygote begin to divide only after the division of Primary Endosperm Cell (PEC)?



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9. The generative cell of a two-celled pollen divides in the pollen tube but not in a three-celled pollen. Give reasons.



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10. In the figure given below label the following parts: male gametes, egg cell, polar

nuclei, synergid and pollen tube



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Section E Solution Of Ncert Exemplar Long Answer Type Question

1. Starting with zygote, draw the diagrams of the different stages of embryo development in a dicot



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2. What are chasmogamous flower? Can cross pollination occur in cleistogamous flowers? Give reasons for your answer



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3. With a neat, labelled diagram, describe the parts of a mature angiosperm embryo sac.

Mention the role of synergids



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Section F Multiple Choice Questions

1. Into what cleistogamous flowers are seen ?

A. *Voyella*

B. *Oxalis*

C. Comelina

D. All of the above

Answer: D



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2. In bisexual flowers, stamen and carpel mature at different times, by what name is called?

(A) Dichogamy

(B) Self sterility

(C) Herkogamy

(D) Allogamy

A. Dichogamy

B. Self sterility

C. Herkogamy

D. Allogamy

Answer: A



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3. Which is the characteristics of the flower in plants possessing wind pollination?

(A) Large flower, sweet fragrance, colourless

(B) Small flowers, fragranceless, coloured

(C) Small flowers, fragranceless colourless

(D) Large flowers, sweetly fragrance coloured

A. Large flower, sweet fragrance, colourless

B. Small flowers, fragranceless, coloured

C. Small flowers, fragranceless colourless

D. Large flowers, sweetly fragrence
coloured

Answer: C



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4. The generative cell of a two-celled pollen divides in the pollen tube but not in a three-celled pollen. Give reasons.

A. (2), (3), (1), (5), (4)

B. (3), (2), (1), (5), (4)

C. (3), (4), (2), (1), (5)

D. (2), (1), (5), (4), (3)

Answer: B



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5. Which is the largest nucleus in pollen grain?

(A) gamete nucleus

(B) vegetative nucleus

(C) generative nucleus

(D) primary covered nucleus

A. gamete nucleus

B. vegetative nucleus

C. generative nucleus

D. primary covered nucleus

Answer: B



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6. There are In embryo sac

(A) 8 cell, 7 nuclei

(B) 7 cells, 7 nuclei

(C) 8 cells, 8 nuclei

(D) 7 cells, 8 nuclei

A. 8 cell, 7 nuclei

B. 7 cells, 7 nuclei

C. 8 cells, 8 nuclei

D. 7 cells, 8 nuclei

Answer: D



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7. How are synergid cells in chromosomal point of view?

(A) Haploid

(B) Diploid

(C) Triploid

(D) Irregular

A. Haploid

B. Diploid

C. Triploid

D. Irregular

Answer: A



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8. Double fertilisation is a unique characteristics of which plant?

(A) angiosperm

(B) algae

(C) gymnosperm

(D) hermaphrodite

A. angiosperm

B. algae

C. gymnosperm

D. hermaphrodite

Answer: A



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9. Generally, by fertilisation of mature egg cells, which cells possess n , $2n$ and $3n$ respectively?

A. egg cells, secondary nuclei, endosperm

B. egg cell, antipodal cells, nucleus

C. endosperm, nucleus, egg cell

D. antipodal cells, synergid cells

integuments

Answer: A



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10. The formation of 256 pollen grains is done by how many meiotic division and from which cells?

(A) 64 microspore mother cell

(B) 128 microspore mother cell

(C) 512 microspore mother cell

(D) 256 microspore mother cell

A. 64 microspore mother cell

B. 128 microspore mother cell

C. 512 microspore mother cell

D. 256 microspore mother cell

Answer: A



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11. Which is called male reproductive organ of the following ?

(A) Corolla

(B) Calyx

(C) Gynoecium,

(D) Androecium

A. Corolla

B. Calyx

C. Gynoecium,

D. Androecium

Answer: D



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12. Anther generally consists of.....

(A) one microsporangia

(B) two microsporangia

(C) Three microsporangia

(D) Four microsporangia

A. one microsporangia

B. two microsporangia

C. Three microsporangia

D. Four microsporangia

Answer: D



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13. In a pollen grain larger irregular shaped nucleus is

(A) archesporical nucleus

(B) vegetative cell

(C) prothallial nucleus

(D) generative cell

A. archesporical nucleus

B. vegetative cell

C. prothallial nucleus

D. generative cell

Answer: B



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14. A microspore mother cell forms

(A) embryo sac

(B) pollen Grains

(C) nucellus

(D) tapetum

A. embryo sac

B. pollen Grains

C. nucellus Nucleus

D. tapetum

Answer: A



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15. The ovule is attached to the placenta by a small stalk which is known as

(A) Hilum

(B) Funicle

(C) Nucellus

(D) Chalaza

A. Hilum

B. Funicle

C. Nucellus

D. Chalaza

Answer: B



Watch Video Solution

16. How many megaspore mother cells are produced in a Nucellus?

(A) Two

(B) Eight

(C) Four

(D) One

A. Two

B. Eight

C. Four

D. One

Answer: D



Watch Video Solution

17. What forms when meiotic division in an ovule takes place?

- (A) Archegonium Tissue
- (B) Megaspore Mother cell
- (C) Megaspore
- (D) generative cell

A. Archegonium Tissue

B. Megaspore Mother cell

C. Megaspore

D. generative cell

Answer: C



Watch Video Solution

18. The mature embryo sac has how many cells?

A. Five cell

B. One cell

C. Eight Cells

D. Seven cells

Answer: D



Watch Video Solution

19. Transfer of pollen to the stigma of another flower of the same plant is

(A) allogamy

(B) xenogamy

(C) autogamy

(D) geitonogamy

A. allogamy

B. xenogamy

C. autogamy

D. geitonogamy

Answer: D



Watch Video Solution

20. Hydrophily occurs in which plant?

(A) Vallisnaria

(B) Maize

(C) Grasses

(D) Yucca

A. Vallisnaria

B. Maize

C. Grasses

D. Yucca

Answer: A



Watch Video Solution

21. Which plants among the following are pollinated by flies?

(A) Yucca

(B) Avocado

(C) Zostera

(D) Maize

A. Yucca

B. Avacdo

C. Zostera

D. Maize

Answer: B



Watch Video Solution

22. Cleistogamy occurs in which plant?

(A) Commelina

(B) Yucca

(C) Malva

(D) Hydrallia

A. Commelina

B. Yucca

C. Malva

D. Hydrallia

Answer: A



Watch Video Solution

23. What is the name of the larger cell of the suspensor that remains in contact of apical cells?

(A) Hypophysis

(B) Endosperm

(C) Apical cell

(D) Single cell

A. Hypophysis

B. Endosperm

C. Apical cell

D. Single cell

Answer: A



Watch Video Solution

24. What does egg apparatus contain

(A) Egg cell + synergids

(B) Egg cell + secondary nucleus

(C) Three antipodals

(D) Synergids + secondary nucleus

A. Egg cell + synergids

B. Egg cell + secondary nucleus

C. Three antipodals

D. Synergids + secondary nucleus

Answer: A



25. Autogamy can occur in a chasmogamous flower if

(A) Pollen matures before maturity of ovule

(B) Ovules mature before maturity of pollen

(C) Both pollen and ovules mature simultaneously

(D) Both anther and stigma are of equal lengths

A. Apiaceae and Lamiaceae

B. Verbenaceae and Moraceae

C. Menispermaceae and Lamnaceae

D. Apocynaceae and Rhanaceae

Answer: A



Watch Video Solution

26. Which plant is pollinated through wind?

A. Commelina

B. Maize

C. Malva

D. Moras

Answer: B



View Text Solution

27. The adaptation of Self-pollination is

- (A) Dichogamy
- (B) Self sterility
- (C) cleistogamy
- (D) herkogamy

A. Dichogamy

B. Self sterility

C. cleistogamy

D. herkogamy

Answer: C



Watch Video Solution

28. Synergids are of which type?

A. Diploid

B. Triploid

C. Haploid

D. Tetraploid

Answer: C



Watch Video Solution

29. Embryo sac is found in

(A) Embryo

(B) seed

(C) ovule

(D) Endosperm

A. Embryo

B. seed

C. ovule

D. Endosperm

Answer: C



Watch Video Solution

30. In embryo development, the basal cell which produces 20 to 25 cell structures is called

A. apical cell

B. suspensor

C. hypophysis

D. central cell

Answer: B



Watch Video Solution

31. The development of embryo from unfertilized egg is

- (A) haploid apogamy
- (B) Parthenogenesis
- (C) generative apospory
- (D) somatic apospory

- A. haploid apogamy
- B. Parthenogenesis
- C. generative apospory
- D. somatic apospory

Answer: B



Watch Video Solution

32. What is Parthenocarpy?

- (A) Development of egg without fertilization
- (B) Development of fruit without fertilization
- (C) Development of seed without fertilization
- (D) Development of egg with fertilization

A. Development of egg without fertilization

B. Development of fruit without fertilization

C. Development of seed without fertilization

D. Development of egg with fertilization

Answer: B



Watch Video Solution

33. Autogamy means

(A) pollination of a flower by its own pollen

(B) pollination of a flower by different of same species

(C) pollination of a flower by different pollen of different species

(D) Pollen of a flower pollinate any other flower present on same plant

A. pollination of a flower by its own pollen

B. pollination of a flower by different of same species

C. pollination of a flower by different pollen
of different species

D. Pollen of a flower pollinate any other
flower present on same plant

Answer: A



Watch Video Solution

34. Autogamy is possible in

(A) only monoecious flower

(B) only in bisexual flower

(C) both monoecious and bisexual flower

(D) none of these

A. only monoecious flower

B. only in bisexual flower

C. both monoecious and bisexual flower

D. none of these

Answer: B



Watch Video Solution

35. Autogamy is observed in members of...

(A) apiaceae

(B) lamiaceae

(C) cactaceae

(D) all the above

A. apiaceae

B. lamiaceae

C. cactaceae

D. all the above

Answer: D



Watch Video Solution

36. Which of the following option is correct for statement .X. and statement .Y.?

Statement .X. : In autogamous flower, the stigma and anthers of a flower ripe almost simultaneously.

Statement-.Y. : Autogamy is possible only in bisexual flower

(A) Statement-.X. and statement-.Y. both are correct and statement-.Y. is the reason for statement-.X.

(B) Statement-.X. and statement-.Y. are correct and statement -.Y. is not correct reason for statement-.X.

(C) statement-.X. is correct and statement-.Y. is wrong

(D) statement-.Y. is correct and statement-.X. is wrong

A. Statement-.X. and statement-.Y. both are correct and statement-.Y. is the reason for statement-.X.

B. Statement-X. and statement-Y. are correct and statement -Y. is not correct
reason for statement-X.

C. statement-X. is correct and statement-Y.
is wrong

D. statement-Y. is correct and statement-X.
is wrong

Answer: A



Watch Video Solution

37. Sporogenous tissue gets its nourishment from layer of anther wall, which can release not only enzymes but also hormones?

(A) Middle layer

(B) Epidermis

(C) Tapetum

(D) Endothecium

A. Middle layer

B. Epidermis

C. Tapetum

D. Endothecium

Answer: C



Watch Video Solution

38. 250 microsporocytes will give rise to

Microspores

- (A) 250
- (B) 500
- (C) 1000
- (D) 2500

A. 250

B. 500

C. 1000

D. 2500

Answer: C



Watch Video Solution

39. What is the function of tapetum in a developing anther?

(A) To draw food materials from the microspores

(B) To digest the sporocytes

(C) To supply food materials to the developing microsporocytes

(D) To give protection to the inner tissue

A. To draw food materials from the microspores

B. To digest the sporocytes

C. To supply food materials to the developing microsporocytes

D. To give protection to the inner tissue

Answer: C



Watch Video Solution

40. The number of microsporangia present in the anther is

A. one

B. three

C. two

D. four

Answer: D



Watch Video Solution

41. The male gametes of angiosperms are....

(A) uniflagellate

(B) biflagellate

(C) non-motile as there is no flagellated stage
in the life cycle of angiosperms

(D) none of these

A. uniflagellate

B. biflagellate

C. non-motile as there is no flagellated stage in the life cycle of angiosperms

D. none of these

Answer: C



Watch Video Solution

42. Male gametophyte of angiosperm is....

(A) anther lobe

(B) pollen before germination

(C) pollen after germination

(D) embryosac

A. anther lobe

B. pollen before germination

C. pollen after germination

D. embryosac

Answer: C



Watch Video Solution

43. Which among the following is applicable to tapetum?

(A) Protective layer

(B) Nourishing layer

(C) Vestigial part

(D) None of the above

A. Protective layer

B. Nourishing layer

C. Vestigial part

D. None of the above

Answer: B



Watch Video Solution

44. The chemical nature of the compound forming exine is....

- (A) long chain fattyacids
- (B) phenolics
- (C) carotenoids
- (D) all of these

A. long chain fattyacids

B. phenolics

C. carotenoids

D. all of these

Answer: D



Watch Video Solution

45. Outermost layer of the pollen is formed from endothecium and is made up of

(A) pectocellulose

(B) lignocellulose

(C) sporopollenin

(D) pollen kit

A. pectocellulose

B. lignocellulose

C. sporopollenin

D. pollen kit

Answer: C



Watch Video Solution

46. The first cell of female gametophyte is

(A) megaspore

(B) microspore

(C) megaspore mother cell

(D) microspore mother cell

A. megaspore

B. microspore

C. megaspore mother cell

D. microspore mother cell

Answer: C



Watch Video Solution

47. Tetrasporic embryosac is one in which

(A) four microspores form the embryosac

(B) four megaspore mother cell form embryosac

(C) Four megaspore form the embryosac

(D) Four microspore mother cell form the embryosac

A. four microspores form the embryosac

B. four megaspore mother cell form
embryosac

C. Four megaspore form the embryosac

D. Four microspore mother cell form the
embryosac

Answer: A



Watch Video Solution

48. In angiosperm the resultant of secondary nucleus with male gamete has.....nature

(A) haploid

(B) Diploid

(C) Triploid

(D) Tetraploid

A. haploid

B. Diploid

C. Triploid

D. Tetraploid

Answer: C



Watch Video Solution

49. Pick up correct statement for pollen tube

(A) It is composed of three noncellular zones

(B) It shows chemotactic movement

(C) It shows only tip growth

(D) It shows cytoplasmic streaming

A. It is composed of three noncellular zones

B. It is shows chemotactic movement

C. It shows only tip growth

D. It shows cytoplasmic streaming

Answer: B



Watch Video Solution

50. If the integuments are pierced by the pollen tube during fertilization it is.....

(A) porogamy

(B) mesogamy

(C) chalazogamy

(D) siphonogamy

A. porogamy

B. mesogamy

C. chalazogamy

D. siphonogamy

Answer: B



Watch Video Solution

51. The oospore derived from double fertilization in angiosperms is

(A) haploid

(B) Diploid

(C) Triploid

(D) polyploid

A. haploid

B. Diploid

C. Triploid

D. polyploid

Answer: B



Watch Video Solution

52. Ovule is comparable to

- (A) megasporangium
- (B) microsporangium
- (C) microsporophyll
- (D) megasporophyll

A. megasporangium

B. microsporangium

C. microsporophyll

D. megasporophyll

Answer: D



Watch Video Solution

53. The endosperm of angiosperms is developed from

(A) antipodals

(B) zygote

(C) synergids

(D) secondary nucleus

A. antipodals

B. zygote

C. synergids

D. secondary nucleus

Answer: D



Watch Video Solution

54. The phenomenon wherein, the ovary develops into a fruit without fertilisation is called

- (A) Parthenocarpy
- (B) Apomixis
- (C) Asexual reproduction
- (D) Sexual reproduction

A. porogamy

B. apospory

C. apogamy

D. parthenocarpy

Answer: D



Watch Video Solution

55. Double fertilization means

- (A) fusion of male gamete with antipodal cell
- (B) fusion of male gamete with synergid cell
- (C) fusion of male gamete with egg cell
- (D) fusion of male gamete with egg cell and another with secondary nucleus

- A. fusion of male gamete with antipodal cell
- B. fusion of male gamete with synergid cell
- C. fusion of male gamete with egg cell
- D. fusion of male gamete with egg cell and another with secondary nucleus

Answer: D



Watch Video Solution

56. Self-pollination occur between stamens and carpels of

(A) same flower

(B) different flower

(C) same flower or different flower of same plant

(D) different flowers of same plant

A. same flower

B. different flower

C. same flower or different flower of same
plant

D. different flowers of same plant

Answer: C



Watch Video Solution

57. What is meant by emasculation?

(A) Pollination between flower of same plant

(B) Pollination between flowers of different
plant

(C) Removal of the anthers

(D) Artificial pollination

A. Pollination between flower of same plant

B. Pollination between flowers of different
plant

C. Removal of the anthers

D. Artificial pollination

Answer: C



Watch Video Solution

58. The term used when anther and stigmas of intersexual or perfect flower ripen before the opening of bud is

- (A) bud pollination
- (B) cleistogamy
- (C) immature pollination
- (D) self pollination

A. bud pollination

B. cleistogamy

C. immature pollination

D. self pollination

Answer: B



Watch Video Solution

59. Self pollination is prevented by

(A) Dichogamy

(B) self sterility

(C) herkogamy

(D) all the above

A. Dichogamy

B. self sterility

C. hekrogamy

D. all the above

Answer: D



Watch Video Solution

60. Pollination which can occur in same plant

is favoured by

(A) herkogamy

(B) cleistogamy

(C) dichogamy

(D) dicliny

A. hekrogamy

B. cleistogamy

C. dichogamy

D. dicliny

Answer: B



Watch Video Solution

61.favours autogamy

(A) Dicliny

(B) Dichogamy

(C) Hekrogamy

(D) Homogamy

A. Dicliny

B. Dichogamy

C. Hekrogamy

D. Homogamy

Answer: D



Watch Video Solution

62. The flower may be of two or more types with regard to the length of style and lengths of stamens is called

- (A) heterostyly
- (B) homostyly
- (C) incompatibility
- (D) protandary

A. heterostyly

B. homostyly

C. incompatibility

D. protandary

Answer: A



Watch Video Solution

63. Allogamy has to be always performed with the help of

(A) external agency

(B) self mechanism

(C) only wind

(D) only man

A. external agency

B. self mechanism

C. only wind

D. only man

Answer: A



Watch Video Solution

64. Allogamy is best favoured by

(A) cleistogamy

(B) dicliny

(C) homogamy

(D) none of the above

A. cleistogamy

B. dicline

C. homogamy

D. none of the above

Answer: B



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65. Allogamy is very useful because it results in

(A) Formation of male off springs

(B) weaker progeny

(C) superior progeny

(D) formation of seeds

A. Formation of male off springs

B. weaker progeny

C. superior progeny

D. formation of seeds

Answer: C



Watch Video Solution

66. Another term for cross-pollination is

- (A) allogamy
- (B) xenogamy
- (C) both above
- (D) autogamy

A. allogamy

B. xenogamy

C. both above

D. autogamy

Answer: C



Watch Video Solution

67. The most exceptional feature of zoophilous flower is

(A) scented having nectar and most colourful

(B) scented, having nectar but inconspicuous

(C) presence of only perianth

(D) without colour and show

A. scented having nectar and most
colourful

B. scented, having nectar but
inconspicuous

C. presence of only perianth

D. without colour and show

Answer: A



Watch Video Solution

68. In bisexual flowers, stamen and carpel mature at different times, by what name is called?

(A) Dichogamy

(B) Self sterility

(C) Herkogamy

(D) Allogamy

A. self-sterility

B. Dicliny

C. heteromorphic flower

D. dichogamy

Answer: D



Watch Video Solution

69. In bisexual flowers, stamen and carpel mature at different times, by what name is called?

(A) Dichogamy

(B) Self sterility

(C) Herkogamy

(D) Allogamy

A. Dichotomy

B. Dichogamy

C. Heterospory

D. Heterostyly

Answer: B



Watch Video Solution

70.is favoured by protandry

(A) Self pollination

(B) Cross pollination

(C) Autogamy

(D) None of the above

A. Self pollination

B. Cross pollination

C. Autogamy

D. None of the above

Answer: B



Watch Video Solution

71. To avoid self-pollination and provide contrivance for cross pollination, the pollen grains of some flowers have no fertilizing effect on the stigma of the same flower but causes death. What is this condition called?

- (A) Homogamy
- (B) Dicliny
- (C) Self sterility
- (D) dichogamy

A. Homogamy

B. Dicliny

C. Self sterility

D. dichogamy

Answer: C



Watch Video Solution

72. Maize flowers are

(A) autogamous

(B) entomophilous

(C) anemophilous

(D) hydrophilous

A. autogamous

B. entromophilous

C. anemophilous

D. hydrophilous

Answer: C



Watch Video Solution

73. Inflowers the stigma is always branched rough and sticky

(A) entomophilous flower

(B) anemophilous

(C) hydrophilous flowers

(D) all the above

A. entomophilous flower

B. anemophilous

C. hydrophilous flowers

D. all the above

Answer: B



Watch Video Solution

74. Pollen grains of flower pollinated by wind or insects are not.....

(A) rough and sticky

(B) large and showy

(C) rough and dry

(D) smooth and dry

A. rough and sticky

B. large and showy

C. rough and dry

D. smooth and dry

Answer: D



Watch Video Solution

75. Besides tube nucleus, the pollen tube at the time of the entry of embryosac has

A. single gametic cell

B. two gametic cells

C. three gametic cell

D. four gametic cell

Answer: B



Watch Video Solution

76. Egg apparatus is present on

(A) micropylar end

(B) chalazal end

(C) hilum

(D) funicle

A. micropylar end

B. chalazal end

C. hilum

D. funicle

Answer: A



Watch Video Solution

77. Pollen tube is composed of

(A) pectin

(B) cutin

(C) sporopollenin

(D) pecto-cellulose

A. pectin

B. cutin

C. sporopollenin

D. pecto-cellulose

Answer: D



Watch Video Solution

78. Which of the following promote pollen germination and tube growth?

A. Sucrose

B. Boron

C. Calcium

D. All of these

Answer: D



79. How many nuclei are involved in double fertilization?

A. two

B. three

C. four

D. five

Answer: D



80. The pollination with the help of wind is termed as

(A) anemophily

(B) ornithophily

(C) hydrophily

(D) chiropterophily

A. anemophily

B. ornithophily

C. hydrophily

D. cheiropteropily

Answer: A



Watch Video Solution

81. In which of the following cleistogamous flowers are present ?

(A) Balsam

(B) Arachis

(C) Commelina

(D) All of these

A. Balsam

B. Arachis

C. Commelina

D. All of these

Answer: D



Watch Video Solution

82. The largest inflorescence of the world is
pollination by

(A) insects

(B) snails and slugs

(C) water

(D) air

A. insects

B. snails are slugs

C. water

D. air

Answer: B



Watch Video Solution

83. The chief pollinator of our agricultural crops are....

(A) moths

(B) bees

(C) beetles

(D) butterflies

A. moths

B. bees

C. beetles

D. butterflies

Answer: B



Watch Video Solution

84. In..... Cleistogamous flower are produced on underground rhizomes or root

A. aspergellus

B. commelina

C. vallisneria

D. zostera

Answer: B



Watch Video Solution

85. In bisexual flower physical barrier between anther and stigma is called

- (A) herkogamy
- (B) heterostyly
- (C) dichogamy
- (D) None of the above

A. herkogamy

B. heterostyly

C. dichogamy

D. None of the above

Answer: A



Watch Video Solution

86. Pollination by wind is

A. zoophily

B. entomophily

C. hydrophily

D. anemophily

Answer: D



Watch Video Solution

87. Which of the following is not an example of water pollinated plant?

(A) Zostera

(B) Viola

(C) Vallisneria

(D) Hydrilla

A. Zostera

B. Viola

C. Vallisneria

D. Hydrilla

Answer: B



Watch Video Solution

88. Which of the following statement is true for vallisneria?

(A) Male flower come to surface of water and release their pollen on water

(B) The female flowers have waxy stigma, water around them become concave discs

(C) The stalks becomes spirally coiled like a spring and fertilized flowers are withdrawn into water

(D) All the above statement are true

A. Male flower come to surface of water
and release their pollen on water

B. The female flowers have waxy stigma,
water around them become concave
dishes

C. The stalks becomes spirally coiled like a
spring and fertilized flowers are
withdrawn into water

D. All the above statement are true

Answer: D



Watch Video Solution

89. In.....female flowers remains submerged in water and the pollen grains are released inside the water

(A) Vallisneria

(B) Marine grasses

(C) Hydrilla

(D) Viola

A. Vallisneria

B. Marine grasses

C. hydrilla

D. viola

Answer: B



Watch Video Solution

90. Which of the following birds helps in pollination?

(A) Sun birds

(B) Humming birds

(C) Bats

(D) Both (A) and (B)

A. Sun birds

B. Humming birds

C. Bats

D. Both (A) and (B)

Answer: D



Watch Video Solution

91. Entomophily is pollination by....

(A) reptiles

(B) insects

(C) rodents

(D) birds

A. reptiles

B. insects

C. rodents

D. birds

Answer: B



Watch Video Solution

92. To prevent inbreeding self-incompatibility is found in

A. sunflower

B. malva

C. plams

D. primula

Answer: B



93. Dioecious plant which prevents both autogamy and geitonogamy

(A) Castor

(B) Maize

(C) Papaya

(D) Palms

A. Castor

B. Maize

C. Papaya

D. Palms

Answer: C



Watch Video Solution

94. Apomixis in plant means development of a plant

- (A) from root cutting
- (B) without fusion of gametes
- (C) from fusion of gametes
- (D) from stem cutting

- A. from root cutting
- B. without fusion of gametes
- C. from fusion of gametes
- D. from stem cutting

Answer: B



Watch Video Solution

95. Development of sporophyte without gametic fusion is known as

(A) apomixis

(B) apospory

(C) apogamy

(D) parthenogenesis

A. apomixis

B. apospory

C. apogamy

D. parthenogenesis

Answer: C



Watch Video Solution

96. What is parthenogenesis?

(A) Development of fruit without hormones

(B) Development of fruit without fertilization

(C) Development of egg without fertilisation

(D) Development of embryo without fertilisation

A. Development of fruit without hormones

B. Development of fruit without fertilization

C. Development of egg without fertilisation

D. Development of embryo without fertilisation

Answer: C



Watch Video Solution

97. Pollination is best defined as

(A) The transference of pollens from anthers to stigma

(B) The germination of pollen grains

(C) visiting on flowers by ants

(D) the growth of pollen tube in the ovule

A. The transference of pollens from anthers
to stigma

B. The germination of pollen grains

C. visiting on flowers by ants

D. the growth of pollen tube in the ovule

Answer: A



Watch Video Solution

98. A microspore mother cell forms

(A) embryo sac

(B) pollen Grains

(C) nucellus

(D) tapetum

A. a pollen sac

B. embryosac

C. pollen grain

D. an ovule

Answer: C



Watch Video Solution

99. One of the most resistant biological material known is

(A) sporopollenin

(B) hemicellulose

(C) lignocellulose

(D) lignin

A. sporopollenin

B. hemicellulose

C. lignocellulose

D. lignin

Answer: A



Watch Video Solution

100. How many pollen mother cells will produce 1000 pollen grains?

(A) 100

(B) 200

(C) 300

(D) 250

A. 100

B. 200

C. 300

D. 250

Answer: D



Watch Video Solution

101. In angiosperms how many microspore mother cells are required to produce 100 pollen grains?

(A) 25

(B) 50

(C) 75

(D) 100

A. 25

B. 50

C. 75

D. 100

Answer: A



Watch Video Solution

102. The formation of 256 pollen grains is done by how many meiotic division and from which cells?

(A) 64 microspore mother cell

(B) 128 microspore mother cell

(C) 512 microspore mother cell

(D) 256 microspore mother cell

A. 64 microspore mother cell

B. 128 microspore mother cell

C. 512 microspore mother cell

D. 256 microspore mother cell

Answer: A



Watch Video Solution

103. When a microspore mother cell with 40 chromosomes undergoes meiosis each of the four resulting cell has

(A) 80 chromosomes

(B) 20 chromosomes

(C) 10 chromosomes

(D) 40 chromosomes

A. 80 chromosomes

B. 20 chromosomes

C. 10 chromosomes

D. 40 chromosomes

Answer: B



Watch Video Solution

104. The odd one is

(A) micropyle

(B) nucellus

(C) embryo sac

(D) Pollen grains

A. micropyle

B. nucellus

C. embryosac

D. Pollen grains

Answer: D



Watch Video Solution

105. What is produced by male gametophyte in angiosperms?

A. stamens

B. microspore

C. microsporangium

D. nucellus

Answer: B



106. The pollen grain is related to the embryo sac as

(A) male gametophyte is to the egg

(B) male gametophyte is to the female gametophyte

(C) sperm is to the egg

(D) sperm is to the female gametophyte

A. male gametophyte is to the egg

B. male gametophyte is to the female gametophyte

C. sperm is to the egg

D. sperm is to the female gametophyte

Answer: B



Watch Video Solution

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

A. egg, nucellus and endosperm

B. egg, antipodals and nucellus

C. endosperm, nucellus and egg

D. antipodals, synergids and integuments

Answer: A



View Text Solution

108. The endosperm of angiosperms is developed from

(A) antipodals

(B) zygote

(C) synergids

(D) secondary nucleus

A. antipodal cell

B. zygote

C. synergids

D. secondary nucleus

Answer: D



Watch Video Solution

109. If an endosperm of an angiosperm has 24 chromosomes what would be the number of chromosomes in the megaspore mother cell of the same plant?

(A) 8

(B) 16

(C) 24

(D) 32

A. 8

B. 16

C. 24

D. 32

Answer: B



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110. What is endosperm? Describe types of endosperm

A. When embryo is heart -shaped

B. Just after division of primary endosperm

nucleus

C. Mature stage of endosperm

D. When division start in embryo

Answer: B



Watch Video Solution

111. Milky water of green coconut is

(A) liquid of female gametophyte

(B) liquid endosperm

(C) liquid chalaza

(D) liquid nucellus

A. liquid of female gametophyte

B. liquid endosperm

C. liquid chalaza

D. liquid nucellus

Answer: B



Watch Video Solution

112. Proteinaceous endosperm of maize is called

(A) apophysis

(B) aleurone layer

(C) scutellum

(D) xenia

A. apophysis

B. aleurone layer

C. scutellum

D. xenia

Answer: B



Watch Video Solution

113. Morphologically the white fluffy edible mass in maize is.....

(A) seed coat

(B) endosperm

(C) perisperm

(D) seed

A. seed coat

B. endosperm

C. perisperm

D. seed

Answer: B



Watch Video Solution

114. The megasporangium of the angiosperms on maturation gives rise to

(A) cotyledons

(B) seed

(C) fruit

(D) endosperm

A. cotyledons

B. seed

C. fruit

D. endosperm

Answer: B



Watch Video Solution

115. In angiosperms how many microspore mother cells are required to produce 100 pollen grains?

(A) 25

(B) 50

(C) 75

(D) 100

A. 25

B. 100

C. 125

D. 150

Answer: C



Watch Video Solution

116. After fertilisation, the seed coats of seeds develop from

(A) ovule

(B) chalaza

(C) integuments

(D) nucellus

A. ovule

B. chalaza

C. integuments

D. nucellus

Answer: C



Watch Video Solution

117. Tegmen develops from

(A) outer integument

(B) inner integument

(C) chalaza

(D) perisperm

A. outer integument

B. inner integument

C. chalaza

D. perisperm

Answer: B



Watch Video Solution

118. Micropyle in seed helps the entry of

(A) pollen tube

(B) water

(C) male gamete

(D) female gamete

A. pollen tube

B. water

C. male gamete

D. female gamete

Answer: B



Watch Video Solution

119. Aleurone layer is present in

A. the peripheral part of scutellum

B. the peripheral part of coleoptile

C. cotyledons

D. the peripheral part of endosperm

Answer: D



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120. In albuminous seed the food is stored in

(A) testa

(B) tegmen

(C) aleurone cells

(D) endosperm

A. testa

B. tegmen

C. aleurone cells

D. endosperm

Answer: D



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121. Choose the correct option for label .a. to .e. from the table given below

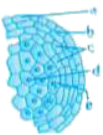


	a	b	c	d	e
(A)	Tapetum tissue	Sporogenous	Endothecium	Epidermis	Connective
(B)	Connective	Epidermis	Endothecium tissue	Sporogenous	Tapetum
(C)	Sporogenous tissue	Connective	Epidermis	Endothecium	Tapetum
(D)	Endothecium	Connective tissue	Sporogenous	Tapetum	Epidermis



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122. Choose the correct option for label .a. to .e. from the table given below



	a	b	c	d	e
(A)	Microspore anther cell	Middle layer	Tapetum	Epidermis	Endothecium
(B)	Middle layer anther cell	Microspore	Epidermis	Endothecium	Tapetum
(C)	Epidermis	Endothecium	Middle layer anther cell	Microspore	Tapetum
(D)	Endothecium	Middle layer anther cell	Microspore	Epidermis	Tapetum



123. Match the two columns:

Column - I		Column - II	
(I)	Mature microspore	(A)	Exine of pollen grain
(II)	Sporopollenin	(B)	Pollen grain
(III)	Megasporangium	(C)	Funiculus
(IV)	Stalk of ovule	(D)	Ovule

(A) (I-A),(II- B), (III- D), (IV- C)

(B) (I-B), (II-A), (III-D), (IV - C)

(C) (I- A), (II-B), (III-C), (IV- D)

(D) (I- D), (II- A), (III-C), (IV-B)

A. (I-A),(II- B), (III- D), (IV- C)

B. (I-B), (II-A), (III-D), (IV - C)

C. (I- A), (II-B), (III-C), (IV- D)

D. (I- D), (II- A), (III-C), (IV-B)

Answer: B



Watch Video Solution

124. Match the two columns:

Column - I		Column - II	
(I)	Intine	(A)	Nourishing layer
(II)	Pollen	(B)	Female gametophyte
(III)	Embryosac	(C)	Cellulose
(IV)	Tapetum	(D)	Microspere mother cell

(A) (I-C), (II-D), (III-B), (IV-A)

(B) (I-D), (II-C), (III-A), (IV-B)

(C) (I-C), (II-B),(III-D), (IV-A)

(D) (I-B),(II-D),(III-C),(IV-A)

A. (I-C), (II-D), (III-B), (IV-A)

B. (I-D), (II-C), (III-A), (IV-B)

C. (I-C), (II-B),(III-D), (IV-A)

D. (I-B),(II-D),(III-C),(IV-A)

Answer: A



Watch Video Solution

125. Match the two columns:

Column - I		Column - II	
(I)	Anemophily	(A)	wind pollination
(II)	Hydrophily	(B)	pollination by water
(III)	Ornithophily	(C)	pollination by birds
(IV)	Entomophily	(D)	pollination by insects

(A) (I-A), (II-B), (III-C), (IV-D)

(B) (I-B), (II-A), (III-C), (IV-D)

(C) (I-A), (II-C), (III-B), (IV-D)

(D) (I-D), (II-B), (III-C), (IV-A)

A. (I-A), (II-B), (III-C), (IV-D)

B. (I-B), (II-A), (III-C), (IV-D)

C. (I-A), (II-C), (III-B), (IV-D)

D. (I-D), (II-B), (III-C), (IV-A)

Answer: A



Watch Video Solution

126. Match Column-I with Column-II and choose the correct answer

Column - I		Column - II	
(a)	Coleorhiza	(1)	Banana
(b)	Food storing tissue	(2)	Mango
(c)	Parthenocarpic fruit	(3)	Maize
(d)	Single seeded fruit developing from monosperous superior ovary	(4)	radicle
(e)	Membraneous seed coat	(5)	Endosperm

- A. (a-3), (b-1), (c-4), (d-2), (e-5)
- B. (a-4), (b-2), (c-5), (d-1), (e-3)
- C. (a-5), (b-1), (c-3), (d-4), (e-2)
- D. (a-4), (b-5), (c-1), (d-2), (e-3)

Answer: D



View Text Solution

127. Filiform apparatus is a characteristic feature of

A. egg

B. synergid

C. zygote

D. suspensor

Answer: B



Watch Video Solution

128. What would be the number of chromosomes of aleurone cell of a plant with 42 chromosomes in its root tip cells?

(A) 63

(B) 84

(C) 21

(D) 42

A. 63

B. 84

C. 21

D. 42

Answer: A



Watch Video Solution

129. Wind pollination is common in

(A) lilies

(B) grasses

(C) orchids

(D) legumes

A. lilies

B. grasses

C. orchids

D. legumes

Answer: B



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130. Nucellar polyembryony is reported in species of

(A) *gossypium*

(B) *triticum*

(C) *brassica*

(D) *citrus*

A. *gossypium*

B. *triticum*

C. *brassica*

D. *citrus*

Answer: D



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131. In which one of the following pollination is autogamous?

- (A) Xenogamy
- (B) Chasmogamy
- (C) cleistogamy
- (D) Geitonogamy

A. Xenogamy

B. Chasmogamy

C. cleistogamy

D. Geitonogamy

Answer: C



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132. In a flowering plant the pollen tube first arrives in

(A) egg

(B) antipodal cell

(C) a synergid

(D) central cell

A. egg

B. antipodal cell

C. a synergid

D. central cell

Answer: C



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133. Which one of the following would not lead to formation of clones?

(A) Double fertilization

(B) Apomixis

(C) Vegetative reproduction

(D) Tissue culture

A. Double fertilization

B. Amponixis

C. Vegetative reproduction

D. Tissue culture

Answer: A



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134. Which of the following statement is wrong?

(A) Pollen grains remain viable for several months because their outer covering is made up of sporopollenin

(B) No enzyme can degrade sporopollenin

(C) Pollen grains are well represented in fossil

state due to sporopollenin

(D) Pollen wall has cavities containing proteins

A. Pollen grains remain viable for several months because their outer covering is made up of sporopollenin

B. No enzyme can degrade sporopollenin

C. Pollen grains are well represented in fossil state due to sporopollenin

D. Pollen wall has cavities containing proteins

Answer: D



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135. Testa of a seed is produced from

(A) ovary wall

(B) hilum

(C) outer integument of ovule

(D) funicle

A. ovary wall

B. hilum

C. outer integument of ovule

D. funicle

Answer: C



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136. Study the following statement and choose the option:

(I) Tapetum nourishes the developing pollen grains

(II) Hilum represents the junctions between

ovule and funicle

(III) In aquatic plant such as water hyacinth and water lily, pollination by water

(IV) The primary endosperm nucleus is triploid

(A) I and II are correct but III and IV are incorrect

(B) I, II and IV are correct but III is incorrect

(C) II, III and IV are correct but I is incorrect

(D) I and IV are correct but II and III are incorrect

A. I and II are correct but III and IV are incorrect

B. I, II and IV are correct but III is incorrect

C. II, III and IV are correct but I is incorrect

D. I and IV are correct but II and III are
incorrect

Answer: B



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137. How many nuclei are involved in double fertilization?

A. 3

B. 2

C. 4

D. 5

Answer: D



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138. Which is the characteristics of the flower in plants possessing wind pollination?

(A) Large flower, sweet fragrance, colourless

(B) Small flowers, fragranceless, coloured

(C) Small flowers, fragranceless colourless

(D) Large flowers, sweetly fragrance coloured

A. small, brightly coloured, producing large
number of pollen grains

B. small producing large number of dry
pollen grain

C. large, producing abundant nectar and
pollen

D. small producing nectar and dry pollen

Answer: B



Watch Video Solution

139. Transfer of pollen to the stigma of another flower of the same plant is

- (A) allogamy
- (B) xenogamy
- (C) autogamy
- (D) geitonogamy

A. Xenogamy

B. geitonogamy

C. karyogamy

D. autogamy

Answer: D



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

(A) It helps in the entry of pollen tube into synergid

(B) It prevents entry of more than one pollen tube into the embryosac

(C) It brings about opening of the pollen tube

(D) It guides pollen tube from a synergid to egg

A. It helps in the entry of pollen tube into synergid

B. It prevents entry of more than one pollen tube into the embryosac

C. It brings about opening of the pollen tube

D. It guides pollen tube from a synergid to
egg

Answer: A



Watch Video Solution

141. The arrangement of the nuclei in a normal
embryosac in the dicot plant is

(A) $2 + 4 + 2$

(B) $3 + 2 + 3$

(C) $2 + 3 + 3$

(D) $3 + 3 + 2$

A. $2 + 4 + 2$

B. $3 + 2 + 3$

C. $2 + 3 + 3$

D. $3 + 3 + 2$

Answer: B



Watch Video Solution

142. The contrivances shown by jasmine flower for cross-pollination is

(A) herkogamy

(B) heterostyly

(C) dicliny

(D) dichogamy

A. herkogamy

B. heterostyly

C. decliny

D. dichogamy

Answer: B



Watch Video Solution

143. With references to cannabis, which of the following options is correct for statement-X., statement-Y. and statement-Z.?

statement-X.- Flowers are attractive and produce scent

statement-Y.- Pollen grains are small in size, dry and light

statement-Z.- Cannabis is wind pollinated

plant

(A) Both the statement-X. and statement-Y. are correct and statement-Z. is the correct reason for .Y.

(B) statement-X. is correct and statement-Y. is wrong. statement-Z. is the correct reason for .X.

(C) statement-X. is wrong and statement-Y. is correct. statement-Z. is the correct reason for .Y.

(D) Both of the statement-X. and .Y. are wrong and .Z. is independent of .X. and .y"

A. Both the statement-.X. and statement-.Y.
are correct and statement-.Z. is the
correct reason for .Y.

B. statement-.X. is correct and statement-.Y.
is wrong. statement-.Z. is the correct
reason for .X.

C. statement-.X. is wrong and statement-.Y.
is correct. statement-.Z. is the correct
reason for .Y.

D. Both of the statement-.X. and .Y. are wrong and .Z. is independent of .X. and .y"

Answer: C



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144. Which of the following is the correct chronological order of the division taking place through an apical cell to a sixteen cell stage formation?

A. Vertical division → vertical division at
right angles to the first division →
transverse division → periclinal
division

B. Vertical division → transverse division
→ periclinal division

C. Vertical division → vertical division at
right angle to the first division →
division at right angles to both the
previous divisions → periclinal division

D. Vertical division → Transverse division

→ division at right angles to both the

previous divisions → periclinal division

Answer: C



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145. If the genetic complex of organism is the same and yet fertilization does not occur, this aspect is referred as

A. parthenogenesis

B. polyembryony

C. incompatibility

D. parthenocarpy

Answer: C



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146. The plant developed by parthenogenesis might be

(A) only haploid

(B) only diploid

(C) haploid or diploid

(D) triploid

A. only haploid

B. only diploid

C. haploid or diploid

D. triploid

Answer: C



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147. Which of the following statement is not true?

(A) Insects which consume pollen or nectar without bringing out pollination. They are called pollen-nectar robbers

(B) The chemical component of pollen grain which controls pollen grain germination and growth of pollen tube that interacts with pistil

(C) In some species of plants some reptile also do pollination, that has been recorded

(D) In many species pollen grain can germinate

on stigma of pistil of the flower but only pollen grain of some species grow in style

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

Answer: D



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148. Which fruti shows polyembryony?

A. Banana

B. Pineapple

C. Mango

D. Grapes

Answer: C



Watch Video Solution

149. Name the pore found on the exine of the pollen grains

(A) Micropores

(B) Germ pore

(C) Micropyle

(D) Lentical

A. Micropores

B. Germ pore

C. Micropyle

D. Lentical

Answer: B



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150. Which of the following indicates the development of ovary into fruits without the stimulation of fertilization ?

- (A) Incompatibility
- (B) Parthenogenesis
- (C) Polyembryony
- (D) Parthenocarpy

A. Incompatibility

B. Parthenogenesis

C. Polyembryony

D. Parthenocarpy

Answer: D



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151. Which of the following is correct option for the type and the number of cell division taking place in the .a. and .b. process

mentioned below.

Process .a.: Formation of 8 pollen grains from anther cells

Process .b.: Formation of 8 male gametophytes from 8 pollen grains

A. a. = eight mitotic division

.b. = two meitotic division

B. a. = two mitotic division

.b. = sixteen meitotic division

C. a. = four mitotic division

.b. = sixteen meitotic division

D. a.= two mitotic division

.b.= sixteen meitotic division

Answer: B



View Text Solution

152. Which tissue is responsible for producing root from runner of grass?

A. Apical meristem

B. Lateral meristem

C. Intercalary meristem

D. Non -meristem

Answer: A



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153. Which of the following is correct

A. Development of shoot system is inhibited

B. Development of central region of radicle

will stop

C. The development of embryo will not

occur due to lack of nutrition

D. All of the given

Answer: D



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154. What is the type of pollination observed in viola and oxalis showing cleistogamy?

(A) Self -Pollination (Autogamy)

(B) Hydrophily

(C) Zoophily

(D) Geitonogamy

A. Self -Pollination (Autogamy)

B. Hydrophily

C. Zoophily

D. Geitonogamy

Answer: A



Watch Video Solution

155. In the development of male gametophyte, the nucleus of pollen divides mitotically and produce large nucleus is called.....

- (A) antipodal cell
- (B) Vegetative cell
- (C) Generative cell
- (D) Synergids + secondary nucleus

A. antipodal cell

B. Vegetative cell

C. Generative cell

D. Synergids + secondary nucleus

Answer: B



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156. In which plant true endosperm is found: A. coconut B. Apple C. Cotton D. Cashew nut

A. Coconut

B. Apple

C. cotton

D. Cashew nut

Answer: A



View Text Solution

157. To prevent contamination of stigma with unwanted pollen... is done

A. Artificial hybridization

B. Emasculation

C. Bagging

D. All the given three

Answer: C



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158. The sterile region of female reproductive part of the flower is known as.... A. Stigma B. Style C. Ovule D. Ovary

A. Stigma

B. Style

C. Ovule

D. Ovary

Answer: B



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159. Name the part of pollen grains responsible for preserving them as fossils

A. Germ pore

B. Intine

C. Exine

D. Gametes

Answer: C



Watch Video Solution

160. What .X. indicates in the given figure?



A. Geitonogamy

B. Homogamy

C. Autogamy

D. Cleistogamy

Answer: C



View Text Solution

161. Name the plant show adventive embryonic cells

A. sunflower and Mango

B. Citrus and Mango

C. Lemon and Maize

D. Lemon and Palms

Answer: B



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162. What is the advantage of cleistogamy?

- A. more genetic variation
- B. more no. of offsprings
- C. No need for pollinators
- D. Placenta germination

Answer: C



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163. Which of the following statements is true?

- A. The outer hard layer of pollen grain is called intine
- B. Sporogenous tissue is haploid
- C. Endothecium produces microspores

D. Tapetum nourishes developing pollen grain

Answer: D



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164. Megasporangium is equal to what

(A) Embryo sac

(B) Fruit

(C) Nucellus

(D) Ovule

A. Embryo sac

B. Fruit

C. Nucellus

D. Ovule

Answer: D



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165. What is the function of filiform apparatus?

(A) Stigma recognizes proper/ right pollen grain

(B) It induces division of germinative cell

(C) Produces nectar

(D) It guides entry of pollen tube

A. Stigma recognizes proper/ right pollen grain

B. It induces division of germinative cell

C. Produces nectar

D. It guides entry of pollen tube

Answer: D



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166. In market tablets of pollen are available for

- A. For fertilisation in laboratory
- B. For breeding programme
- C. Supplement to food
- D. Maintences of new location

Answer: C



Watch Video Solution

167. Define:- Geitonogamy

A. Fertilisation of another flower by Pollen grain of the same plant

B. Fertilisation of some flower by pollen grain

C. Fertilisation by pollen grain of one flower of some species to flower of another species

D. Fertilisation of flower of another flower
by pollen of flower of some species

Answer: A



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168. What is indicated by coconut water
obtained from fresh green coconut?

A. Immature embryo

B. Free nuclear endosperm

C. The innermost layer of seed coat

D. Degenerating nucellus

Answer: B



Watch Video Solution

169. In angiosperms, microsporogenesis, megasporogenesis

(A) Occur in anther

(B) Produce gametes without further dividing

(C) Meiosis is associated in it

(D) Occurs in ovule

A. Occur in anther

B. Produce gametes without further
dividing

C. Meiosis is associated in it

D. Occurs in ovule

Answer: C



Watch Video Solution

170. Filiform apparatus is a characteristic feature of

- A. Germinative cell
- B. Nucellus embryo
- C. Sametaya cells
- D. Synergid cells

Answer: D



Watch Video Solution

171. Which of the following is parthenocarpic fruit?

A. Brinjal

B. Apple

C. Jack fruit

D. Banana

Answer: D



Watch Video Solution

172. In the seed of wheat, an embryo possesses large drum shaped cotyledon. By what name it is called?

A. Epiblast

B. Coleorhiza

C. scutellum

D. Coleoptile

Answer: C



Watch Video Solution

173. What is produced by male gametophyte in angiosperms?

A. Two male gametes and one vegetative cell

B. One male gamete and one germinative cell

C. One male gamete and two germinative cells

D. Three male gametes

Answer: A



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174. The ovule of angiosperm equals to what?

- A. megasporangium
- B. Megaspore leaf
- C. megaspore mother cell
- D. Megaspore

Answer: A



Watch Video Solution

175. By which agents is pollination carried out in Eichhornia and Lotus?

(A) Water

(B) Insects and wind

(C) Birds

(D) Bats

A. Water

B. Insects and wind

C. Birds

D. Bats

Answer: B



Watch Video Solution

176. In majority angiosperms.....

(A) There are filiform apparatus in egg cell

(B) There are many antipodal cells in it

(C) In megaspore mother cell meiotic division takes place

(D) A small central cell is located in embryo sac.

A. There are filiform apparatus in egg cell

B. There are many antipodal cells in it

C. In megaspore mother cell meiotic division takes place

D. A small central cell is located in embryo sac.

Answer: C



Watch Video Solution

177. Which of the following statement is not true?

(A) Insects which consume pollen or nectar without bringing out pollination. They are called pollen-nectar robbers

(B) The chemical component of pollen grain which controls pollen grain germination and growth of pollen tube that interacts with pistil

(C) In some species of plants some reptile also do pollination, that has been recorded

(D) In many species pollen grain can germinate

on stigma of pistil of the flower but only pollen grain of some species grow in style

A. Insects which consume pollen or nectar without bringing out pollination. They are called floral-nectar robbers

B. The chemical component of pollen grain which controls pollen grain germination and growth of pollen tube that interacts with pistil

C. In some species of plants some reptile also do pollination, that has been recorded

D. In many species pollen grain can germinate on stigma of pistil of the flower but only pollen grain of some species grow in style

Answer: D



Watch Video Solution

178. By what name is cotyledon of maize seed is known ?

A. Coleorrhiza

B. Coleoptile

C. Scutellum

D. Plumule

Answer: C



Watch Video Solution

179. The front end of filament is connected to what?

A. Connective

B. Placenta

C. Thalamus or petal

D. Anther

Answer: C



Watch Video Solution

180. Which process is associated in seed formation without fertilisation in flowering plant?

(A) Budding

(B) Somatic hybridisation

(C) Apomixis

(D) Sporogenesis

A. Budding

B. Somatic hybridisation

C. Apomixis

D. Sporogenesis

Answer: C



Watch Video Solution

181. Which of the following is not correct?

(A) outer layer of pollen grain is made up of sporopollenin

(B) Pollen grain of many species cause strong allergy

(C) Pollen grain stored in liquid nitrogen can

be used in crop breeding programme

(D) Tapetum helps in dehiscence of anther

A. The outer layer of pollen grain is made up of sporopollenin

B. Pollen grain of many species cause strong allergy

C. Pollen grain stored in liquid nitrogen can be used in crop breeding programme

D. Tapetum helps in dehiscence of anther

Answer: D



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182. Double fertilisation is a unique characteristics of which plant?

- (A) angiosperm
- (B) algae
- (C) gymnosperm
- (D) hermaphrodite

A. angiosperms

B. algae

C. Fungi

D. Gymnosperms

Answer: A



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183. Functional megaspore develops into... In gymnosperms

(A) Ovule

(B) Endosperm

(C) Embryo sac

(D) Embryo

A. Ovule

B. Endosperm

C. Embryo sac

D. Embryo

Answer: C



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184. A dioecious flowering plant prevents both

.....

(A) Self fertilisation or self pollination and cross pollination

(B) Autogamy and Geitonogamy

(C) Geitonogamy and Cross pollination

(D) Cleistogamy and cross pollination

A. Self fertilisation or self pollination and cross pollination

B. Autogamy and Geitonogamy

C. Geitonogamy and Cross pollination

D. Cleistogamy and cross pollination

Answer: B



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185. Attractants and rewards are required for

(A) anemophily

(B) entomophily

(B) hydrophily

(D) cleistogamy

A. anemophily

B. entomophily

C. hydrophily

D. cleistogamy

Answer: B



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186. Pollen grains can be stored for several years in liquid nitrogen having a temperature of

(A) $-160^{\circ}C$

(B) $-120^{\circ}C$

(C) $-196^{\circ}C$

(D) $-80^{\circ}C$

A. $-160^{\circ}C$

B. $-120^{\circ}C$

C. $-196^{\circ}C$

D. $-80^{\circ}C$

Answer: C



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187. Which one of the following plants shows a very close relationship with a species of moth, where none of the two can complete its life cycle without the other?

(A) Viola

(B) Hydrilla

(C) Banana

(D) Yucca

A. Viola

B. Hydrilla

C. Banana

D. Yucca

Answer: D



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188. Double fertilization is

A. Syngamy and triple fusion

B. Fusion of two male gametes of a pollen tube with two different eggs

C. Fusion of two male gametes with one egg

D. Fusion of one male gamete with two polar nuclei

Answer: A



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189. Which of the following has proved helpful in preserving pollen as fossils?

(A) sporopollenin

(B) Pollenkitt

(C) Oil content

(D) Cellulosic intine

A. sporopollenin

B. Pollenkitt

C. Oil content

D. Cellulosic intine

Answer: A



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190. The phenomenon observed in some plants where in parts of the sexual apparatus is used for forming embryos without fertilisation is called

- (A) Parthenocarpy
- (B) Apomixis
- (C) Vegetative propagation
- (D) Sexual reproduction

A. Autogamy

B. Parthenocarpy

C. Syngamy

D. parthenogenesis

Answer: D



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191. Which one of the following statements regarding post-fertilization development in flowering plants is incorrect?

(A) Ovary develops into fruit

(B) Zygote develops into embryo

(C) Central cell develops into endosperm

(D) Ovules develop into embryo sac

A. Ovary develops into fruit

B. Zygote develops into embryo

C. Central cell develops into endosperm

D. Ovules develop into embryo sac

Answer: D



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192. In some seeds such as black pepper and beet nucellus may be persistent. Such nucellus is known as :

A. Chalaza

B. Perisperm

C. hilum

D. Tegmen

Answer: B



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193. What is the fate of the male gametes discharged in the synergid?

(A) One fuses with the egg, other (s) degenerate (s) in the synergid

(B) All fuse with the egg

(C) One fuses with the egg. Other (s) fuse(s) with synergid nucleus

(D) One fuses with the egg and other fuses with central cell nuclei

A. One fuses with the egg, other (s)

degenerate (s) in the synergid

B. All fuse with the egg

C. One fuses with the egg. Other (s) fuse(s)

with synergid nucleus

D. One fuses with the egg and other fuses

with central cell nuclei

Answer: D



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