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BIOLOGY

BOOKS - MODERN PUBLISHERS BIOLOGY (HINGLISH)

SEXUAL REPRODUCTION IN FLOWERING PLANTS

Suggested Activities Curiosities To Answer

1. List few flowers of ornamental value that are commonly cultivated at homes and in gardens.

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2. Name few flowers used in social and cultural celebrations in India.

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3. List the possible external agents of pollination.

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4. What is Cleistogamy?

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5. What is anemophily?

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6. What is aestivation ?

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7. What is pollination ?

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Practice Problems Reproduction In Flowering Plants

1. How reproduction in plants accomplished?

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2. What are false fruits ? Give two examples .

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3. What are parthenocarpic fruits? Give one example of natural parthenocarpic fruit.

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4. What is pomology?

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5. How would you explain seed set in papaya in the absence of male plant in close vicinity of a female plant?

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6. Explain the significance of sexual reproduction in the life cycle of a plant.

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7. Why an embryo sac diploid in agamospermy?

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8. What do you understand by alternation of generations?

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Ncert Exercise Questions

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 microsprogenesis and magasporogenesis. Which type of cell division occur 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 development 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 flowers ? Can cross-pollination occure in cleistogamous flower ? 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. Why do you think the zygote is dormant for sometime in a fertilized ovule?

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13. Differentiate between:

(a) Hypocotyl and epicotyl,

(b) Coleoptile and coleorrhiza,

(c) Integument and testa,

(d) Perisperm and pericarp.

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14. Why is apple called a false fruit? 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 and what is its importance ?

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1. Among the terms listed below, those that are not technically correct names for a floral whorl are

(i) Andrecium (ii) Carpel

(iii) Corolla (iv) Sepal,

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 as_____is to an anther.

A. Stamen

B. Filament

C. Pollen grain

D. Androecium

Answer: C

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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

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 flowers

C. Plant is monoecious

D. Plant is dioecious and bears only staminate flowers.

Answer: D

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5. The outermost and innnermost 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

Answer: D

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6. During microsporgenesis, meiosis occurs in

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

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.

Answer: B

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9. From the statements given below, choose the option that are true for a typical femal gametophyte of a flowering plant.

(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)

Answer: C

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10. Autogamy can occur in a chasmogamous flower if

A. Pollen matures before maturity of onde

B. Ovules mature before maturity of pollen

C. Both pollen and ovules mature simultaney

D. Both anther and stigma are of equal length

Answer: C

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11. Choose the correct statement from the following

A. Cleistogamous flowers always exhibit autemy

B. Chasmogamous flowers alwaysexhibit gelowany

C. Cleistogamous flowers exhibit both automamy and geitonogamy

D. Chasmogamous flowers never ethibit automy

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

B.

C.

D.

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

Answer: B

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

A. Synergid, zygote and primary endosperm nudeus

B. Synergid, antipodal and polar nudei

C. Antipodal, synergid and primary endospermudeus

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 antipodal

C. Antipodals and primary andouperm cell

D. Rgs and antipodals.

Answer: B

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16. While planning for an artificfal hybridisation programmme involving dioecious plants, which of the following steps would not be relevent?

A. Bagging of female flower

B. Dusting of 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.

Answer: C

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

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 magaspores without undergoing meiosis and if one of the magaspores

develops into an embryo sac, its nuclei would be

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

Answer: A

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Ncert B 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.

Watch Video Solution

3. Name the common function that cotyledons and nucellus perform.

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

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

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

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6. 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 $\underline{(ii)}$.

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

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

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9. What is self incompatibliky?

View Text Solution

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

Watch Video Solution

11. Draw the diagram of a mature embryo sac and show its eight -uncleate, seven-celled nature. Show the follwing parts- antipodals, synergids, egg, central cell, polar nuclei.

Watch Video Solution

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

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13. Is pollination and fertilisation necessary in apomixis ? Give reason

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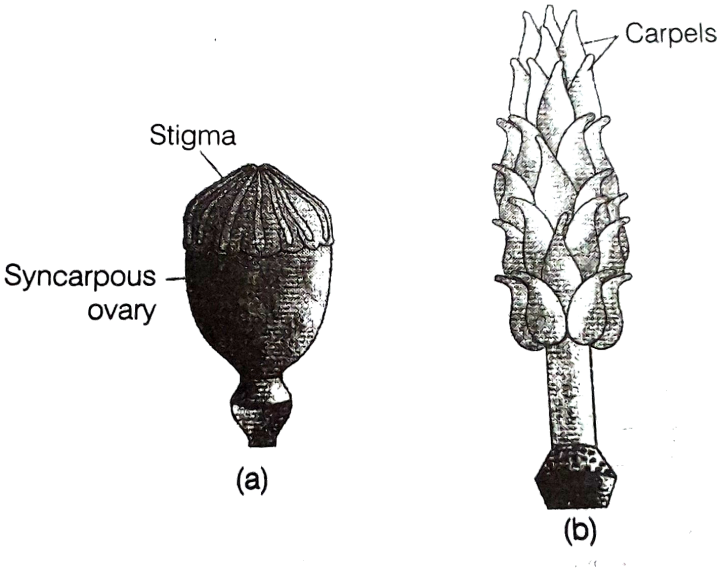
14. Identify the type of carpel with the help of diagrams given below



Watch Video Solution

15. How is pollination carried out in water plants?

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

Watch Video Solution

Ncert C Short Answer Type Questions

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

Watch Video Solution

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 hybridization 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. Does self incompatibility impose any restrictions on autogamy ? Give reasons and suggest the method of pollination in such plant .

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4. In the given diagram, write names of parts labelled a-g. 

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

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

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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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8. 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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9. In the below given figure, label the following parts male gametes, egg cell polar nuclei synergid and pollen tube. 

View Text Solution

Ncert D Long Answer Type Questions

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

Watch Video Solution

2. What are the possible types of pollinatins in chasmogamous flowers. Give reasons.

Watch Video Solution

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

Watch Video Solution

4. Draw the diagram of a microsporangium and lebel its wall parts. Write briefly on role of endothecuium.

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5. Embryo sacs of some apomitic species appear normal but contain diploid cells. Suggest a suitable explanation for the condition.

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Higher Order Thinking Skills Brain Twisting Very Short Answer Questions One Mark Each

1. Name a plant where diadelphous type of statement are present.

Watch Video Solution

2. Where the pollen grains are formed in a plant?

Watch Video Solution

3. What is gootee?

Watch Video Solution

4. (i) Give the term for pollination by bat. (ii) Give one example of bat pollinated flowers.

Watch Video Solution

5. Name as cultivated plant in which neither fruits nor seeds are formed.

Watch Video Solution

6. What is cotyledon of maize grain technically called?

Watch Video Solution

Higher Order Thinking Skills Brain Twisting Shorts Answer Questions Two Marks Each

1. Banana is a true fruit and also a parthenocarpic frult. Justify.

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2. The flower of brinjal is referred to as chaamogamoul while that of beanin cleistogamous. How are they different from each other ?

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3. Draw a labelled diagram of the sectional view of a mature pollen gram in angiosperms. Explain the functions of its different parts.

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Higher Order Thinking Skills Brain Twisting Shorts Answer Questions Three Marks Each

1. Give the significance of vegetative propagation.

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2. What is agamo permy? How is agamospermy different from parthenogenesis and parthenocarpy.

Watch Video Solution

3. How tapetal cell in microsporangium can become binuciente?

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Higher Order Thinking Skills Brain Twisting Long Answer Questions Five Marks Each

1. Write an essay on the development of female gametophyte. Illustrate the answer with suitable diagram.

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2. Draw a well-labelled diagram of a mature ovule, showing its internal structure.

Watch Video Solution

3. Describe the structure of a typical monosporic embryo sac found in flowering plants.

Watch Video Solution

4. What do you understand by the development of an embryo ? Suppor the answer with suitable diagrams.

Watch Video Solution

5. Writ a note on the development of endosperm . Mention the types with examples

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6. "Incompatibility is a natural barrier in the fusion of gametes". Justify the statement.

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Quick Memory Test A Say True Or False

1. Within each ovule a haploid embuyo sac usually containing 8 nuclei is formed.

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2. Grafting is a technique in which shoot or a part of plant (stock) is inserted into another plant (sciom) so as to be nourished by it and united with it.

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3. In Vallers the male flowers are released in air.

Watch Video Solution

4. Chose-pollination requires abiote or biotic agent.

Watch Video Solution

5. Microspores are haplold.

Watch Video Solution

6. Mustard and tomato are examples of hypogynous flower.

Watch Video Solution

7. A population of genetically identical plants derived from an individual is called a seed.

Watch Video Solution

8. Only meiotie divisions are involved in asexual reproduction.

Watch Video Solution

9. Within each ovale a haploid embryo sac usually contains eight nuclei.

Watch Video Solution

Quick Memory Test B Complete The Missing Links

1. Stem cuttings are frequently used for.....

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2. Cacti are grown by .....cutting.

Watch Video Solution

3. Bryophyllum is the best example of propagation by.....

Watch Video Solution

4. Each microspore mother cell has ..... of chromosomes and therefore is .....

Watch Video Solution

5. Insect pollinated flowers are called.....

Watch Video Solution

6. Inside ovary, ovules develop from a special tissue called.....

Watch Video Solution

7. Spike is the same as raceme but flowers have no.....

Watch Video Solution

8. Spike with unisexual flowers is called.....

Watch Video Solution

9. The process of nuclear fusion to form zygote is called.....

Watch Video Solution

10. In an .....fruit, each free carpel develops independently to form a bunch of fruits.

Watch Video Solution

11. Each microspore mother cell has ..... of chromosomes and therefore is .....

Watch Video Solution

12. In flowering plants during double fertilization, two events take place in the embryo sac namely .....and.....

Watch Video Solution

13. The chromosomal ploidy status of zygote is (a) ..... and that of endosperm is (b).....

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Quick Memory Test C Choose The Correct Alternative

1. A typical anther is bilobed/four lobed.

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2. The ovule is attached to placenta by means of a stalk called funicle/hilum.

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3. When transfer of pollen grains from anther to stigma of different plants takes place, it is called geitonogamy/xenogamy.

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4. The central cell after triple fusion becomes primary endosperm nucleus/embryo.

Watch Video Solution

5. The zygote gives rise to proembryo/endosperm.

Watch Video Solution

6. When fruit develops from the ovary it is called a false/true fruit.

Watch Video Solution

Revison Exercises Mcq

1. In some plants, anthers and stigma grow and mature at same time. This phenomenon is called:

A. Homogamy

B. Syngamy

C. Allogamy

D. Fusion

Answer: A

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2. Which one of the following is surrounded by a callose wall

A. Male gamete

B. Egg

C. Pollen grain

D. Microspore mother cell

Answer: D

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

A. Microspore mother cell

B. Microspore

C. Generative cell

D. Vegetative cell

Answer: C

Watch Video Solution

4. Double fertilisation leading to initiation of endosperm in angiosperms require

A. Fusion of 4 or more polar nuclel and the second male gamete only

B. Fusion of 2 polar nuclei and second male gamete only

C. Fusion of one polar nucleus and second male gamete only

D. All the above types of fusions in different types of angiosperms

Answer: B

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5. Eight nucleate embryo sacs are

A. Always bisporic

B. Always tetrasporic

C. Always monosporic

D. Sometimes monosporic, sometimes bisporic and sometimes tetrasporic

Answer: D

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6. Triploid tissue in angiosperms is:

A. Nucellus

B. Endosperm

C. Endothecium

D. Tapetum

Answer: B

Watch Video Solution

7. Tapetal cells are characterised by

A. Mitotic division

B. Meiotic division

C. Endomitosis

D. Endomitosis as well as endopolyploidy

Answer: D

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8. Anemophily type of pollination is found in

A. Salvia

B. Bottle brush

C. Vallisneria

D. Coconut

Answer: D

Watch Video Solution

9. The outermost layer of maize endosperm is known as

A. Perisperm

B. Aleurone

C. Tapetum

D. Endothecium

Answer: B

Watch Video Solution

10. Edible part of mango is

A. Endocarp

B. Receptacle

C. Epicarp

D. Mesocarp

Answer: D

Watch Video Solution

Revison Exercises Ii Very Short Answer Type Questions

1. Give the term for pollinatio by bats.

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2. Geitonogamy

Watch Video Solution

Watch Video Solution

3. What would be the ploidy of the cell of the tetrad ?

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4. Why are banana seedless?

View Text Solution

5. What is the function of micropyle in an angiospermic ovule?

Watch Video Solution

6. Name the part of the flower which the tassels of the corn-cob represent.

Watch Video Solution

7. Write the function of flowers.

Watch Video Solution

8. What do you mean by Geitonogamy?

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9. Many ovules are present in ovary of:

A. Papaya

B. Watermelon

C. Orchid

D. All of these

Answer: D

Watch Video Solution

10. Which of the following mostly pollinate brightly coloured flowers having fragrance and nectar?

A. Water

B. Wind

C. Insects

D. Gecko lizard

Answer: C

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11. Pollination by bats is called

A. Entomophily

B. Chiropterophily

C. Anemophily

D. Ornithophily

Answer: B

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12. Removal of anthers from a flower during hybridization process is known as:

A. Crossing

B. Emasculation

C. Isolation

D. Sterilization

Answer: C

Watch Video Solution

13. Unit of Gynaecium is:

A. Carpel

B. Ovary

C. Stamen

D. Ovule

Answer: A

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14. The chromosome number of a spore mother cell of an angiosperm is 38. What will be chromosome number of its endosperm cell?

A. 38

B. 19

C. 57

D. 76

Answer: C

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15. What do you mean by false fruit?

Watch Video Solution

16. When the body of the ovule, embryo sac, micropyle and funicile, all lie in one vetical plane, the ovule is said to be:

A. Anatropous

B. Orthotropous

C. Amphitropous

D. Campylotropous

Answer: B

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17. Sporopollenin is present in:

A. Exine

B. Intine

C. Both (a) and (b)

D. None of these

Answer: A

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18. What is apomixis?

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19. Sporopollenin occurs in the wall of:

A. Egg cell

B. Pollen grain

C. Synergids

D. Antipodal cells

Answer: B

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20. Emasculation is the process of removal of

A. Stigma

B. Stamen

C. Carpel

D. Petals

Answer: B

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21. Write two important characteristics of anemophilous flowers.

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22. What is apocarpous and syncarpous?

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23. Xenogamy

Watch Video Solution

24. Define mesogamy and anemophily

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Revison Exercises B Questions From Cbse Board Examinations

1. Which are the nuclei that fuse to form endosperm?

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2. Name a bat pollinated flower.

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3. Give three examples of false fruit.

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4. What is funiculus ?

Watch Video Solution

5. What is a bulbil ?

Watch Video Solution

6. What is scutellum?

Watch Video Solution

7. What is coleorhiza?

Watch Video Solution

8. What are parthenocarpic fruits?

Watch Video Solution

9. Differentiate between monoecious and dioecious plants. Give one example of each .

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10. Define parthenocarpy.

Watch Video Solution

11. Double fertilization

Watch Video Solution

12. What is the term used for plant bearing both male and female flowers?

Watch Video Solution

13. What feature is most important in moth pollinated flowers?

Watch Video Solution

14. What does the term monoecious mean?

Watch Video Solution

15. What are quiscent seeds ?

Watch Video Solution

16. How does the mustard inflorescence differ from the banana inflorescence in arrangement '? Give the technical term for each.

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17. Why are cucurbits referred to as monoecious ?

Watch Video Solution

18. Give the technical term for flowers pollinated by hondy bees and butterflies. List any two special features of such flowers.

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19. What is the fate of haplooid megaspores formed by megaspore mother cell in an angiospermic plant ?

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20. List the advantages of pollination to angiospermic plant.

Watch Video Solution

21. Why is the process of fertilization in a flowering plant referred to as double fetilization ? Explain .

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22. In the following figure of a fruit, label the part which his protective in function and that which is responsible for

producing new plants?

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

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24. The microscopic pollen grains of the past are obtained as fossils. Mention the characteristic of the pollen grains that makes it happen .

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25. Mention the pollinating agent of an inflorescence of small dull coloured floweres with well exposed stamens and large feathery stigma. Give any one characteristic of pollen grains produced by such flowers.

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26. The meiocyte of an onion plant contains 32 chromosomes. Workout the number of chromosomes found in its endosperm.

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27. A bilobed, dithecous anther has 100 microspore mother cells per microsporangium. How many male gametophytes this anther can produce ?

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28. An anther with malfunctioning tapetum often fails to produce viable male gametophytes . Give one reason

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29. Cucurbits and papaya plants bear staminate and pistillate flowers. Mention the categories they are put under separately on the basis of the type of flowers they bear.

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30. The following statements describe the wind pollinated plants. Which one of these statements is incorrect?

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31. Give an example of a plant which came into India as a contaminant and is a cause of pollen allergy.

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32. Give an example of a plant which came into India as a contaminant and is a cause of pollen allergy.

Watch Video Solution

33. An anther with malfunctioning tapetum often fails to produce viable male gametophytes . Give one reason

Watch Video Solution

34. What is double fertilization in angiosperms?

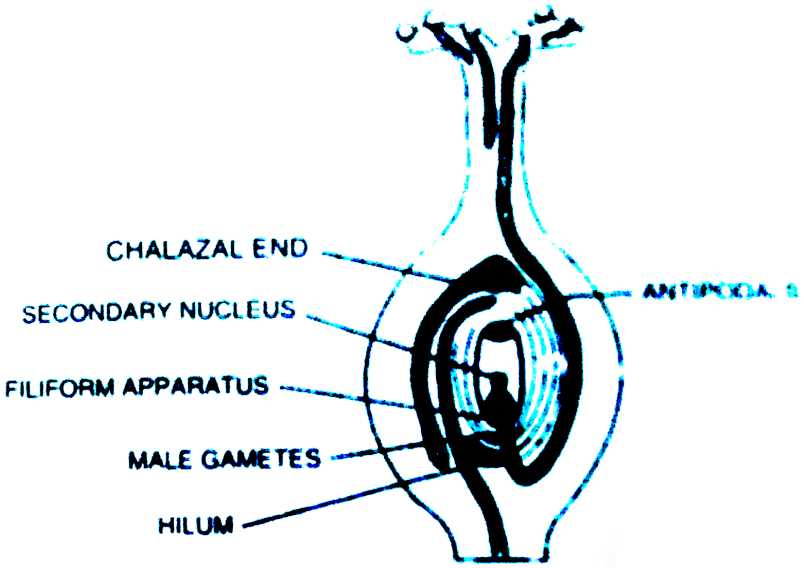
Watch Video Solution

35. How does the pollen mother cell develop into a mature pollen grain? Illustrate the stages with labelled diagrams.

Watch Video Solution

36. Draw a longitudinal section of a post-pollinated pistil showing entry of pollen tube into a mature embryo-sac. Label filiform apparatus, chalazal end, hilum, antipodals male gametes

and secondary nucleus .



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37. (i) Write the characteristics features of anther, pollen and stigma of wind polinated flowers.

(ii) How do flowers reward their insect pollinators ? Explain.

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38. (a) Mention any four strategies adopted by flowering plants to prevent self- pollination.

(b) Why is geitonogamy also referred to as genetical autogamy?

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39. Write the function of tapetum in anthers.

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40. Explain the function of each of the following :

(a) Coleorihiza , (b) Umbilical cord ,(c) Germ pores

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41. Explain any three advantages the seeds offer to angiosperms.

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42. Make a list of an y three outbreeding devices that flowering plants have developed and explain how they help to encourage cross-pollination

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43. Why are angiosperm anthers called dithecous ? Describe the structure of its microsporangium.

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44. Double fertilization is resported in plants of both castor and groundnut . However the mature seeds of groundnut are non-

albuminous and castor are albuminus . Explain post fertilization events that are responsible for it.

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45. A mature, embryo-sac in a flowering plant may possess 7-cells, but 8-nuclei. Explain with the help of a diagram only.

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46. Metion the ploidy of the different types of cells present in the female gametophyte of an angiosperm.

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47. In a flowering plant is microscope mother cell produce four male gametophytes while a megapore mother cell form only one female gametophyte. Explain.

Watch Video Solution

48. Draw a well labelled diagram of L. S. of an embryo of grass.

Watch Video Solution

49. Draw a T.S. of a young anther of an angiosperm Label the different layers of the wall and write their funtions.

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50. (a) You are given castor and bean seeds. Which one of the two would you select to observe the endosperm?

(b) The development of endosperm precedes that of embryo in plants. Justify,

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51. Describe the stages of embryo development in a dicot plant.

Watch Video Solution

52. Fertilization is essential for the production of seed, but in some angiosperms seeds develop without fertilization.

(a)Give an example of an angiosperm that produces seeds without fertilization. Name the progress.

(b)Explain the two way by which seeds develop without fertilization.

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53. Name the cell from which the endosperm of coconut develops. Give the characteristic features of endosperm of coconut .

Watch Video Solution

54. (a) Trace the development ofmegaspore mother cell up to the formation of a mature embryo-sac in a flower ing plant.

(b) Draw a labelled diagram of the structure of mature dicot embryo.

Watch Video Solution

55. Give reasons why:

(i) Most zygotes in angiosperms divide only after certain amount of endosperm is formed.

(ii) Groundnut seeds are exalbuminous and castor seeds are albuminous.

(iii) Micropyle remains as a small pore in the seed coat of a seed.

(iv) Integuments of an ovule harden and the water content is highly reduced, as the seed matures.

(v) Apple and cashew are not called true fruits.

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56. How does the megaspore mother cell develop into 7-celled, 8 nucleate embryo sac in an angiosperm? Draw a labelled diagram of a mature embryo sac.

Watch Video Solution

57. (a) Draw a labelled diagram of the sectional view of a typical anatropous ovule.

(b) Mention the fate of all the components of the embryo sac after fertilization

Watch Video Solution

58. With a neat, labelled diagram, describe the parts of a mature angiosperm embryo sac. Mention the role of synergids.

Watch Video Solution

59. (a) Draw a diagrammatic sectional view of a mature anatropous ovule and label the following parts in it :

(i) that develops into seed coat.

(ii) that develops into an embryo after fertilization.

(iii) that develops into an endosperm in an albuminous seed.

(iv) through which the pollen tube gains entry into the embryo sac.

(v) that attaches the ovule to the placenta.

(b) Describe the characteristic features of wind pollinated flowers.

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60. a) Coconut palm is monoecious, while date palm is dioecious. Why are they so called?

b) Draw a labelled diagram of sectional view of a mature embryo sac of an angiosperm.

Watch Video Solution

61. (a) Explain the phenomenon of double fertilization .

(b) Draw a labelled diagram of a typical anatropous ovule.

Watch Video Solution

62. a) Why does endosperm development precede development in angiosperm seeds? State the role of endosperm in mature albuminous seeds.

b) Describe with the help of three labelled diagrams the different embryonic stages that include mature embryo of dicot plants.

Watch Video Solution

63. (a) Explain the different ways apomictic seeds can develop. Give an example of each.

(b) Mention one advantage of apomictic seeds to farmers.

(c) Draw a labelled mature stage of a dicotyledonous embryo.

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64. A flower of tomato plant following the process of sexual reproduction produces 240 viable seeds.

Answser the following questions giving reasons :

(a) What is the minimum number of pollen grains that must have been involved in the pollination of its pistil ?

(b) What would have been the minimum number of ovules present in the ovary ?

(c) How many megaspore mother cells were involved ?

(d) what is the minimum number of microspore mother cells

involved in the above case ?

(e) How many male gametes were involved in this case ?

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65. (a) Describe is sequence the process of microsporogenesis in angiosperms.

(b) Draw a labelled diagram of a two celled final structure formed.

Watch Video Solution

66. (a) As a senior biology student you have been asked to demonstrate to the students of secondary level in your school, the procedure(s) that shall ensure cross-pollination in a hermaphrodite flower. List the different steps that you would

suggest and provide reasons for each one of them.

(b)Draw a diagram of a section of a megasporangium of and angiosperm and label funiculus, micropyle, embryosac and nucellus.

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67. (a) A capsicum flower has 240 ovules in its ovary . But , it produces a fruit with only 180 viable seeds.

Explain giving a reason that could be responsible for such a result.

(b) Describe the development of an endosperm in a viable seed. Why does endosperm development precede embryo development ?

(c) Give an example of an angiosperm seed that has a perisperm . Name the part the perisperm develops from.

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Watch Video Solution

68. A flower of brinjal has 520 ovules in its ovary . However, it produces a fruit with only 480 viable seeds.

(a) What could have prevented the rest of the 40 ovules from maturing into viable seeds? Explain giving a reason.

(b) Describe the development of a dicot embryo in a viable seed .

(c) Why certain angiospermic seeds are albuminous while others exalbuminous ? Explain.

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69. Read the following statement and answer the questions that follows:

"A guava fruit has 200 viable seeds.".

a) What are viable seeds?

b) Write the total number of:

i) Pollen grains , ii) Gametes in producing 200 viable guava seeds.

c) Prepare a flow-chart to depict the post-pollination events leading to viablle-seed production in a flowering plant.

Watch Video Solution

70. (a) When a seed of an orange is squeezed , many embryos , instead of one are observed . Explain how it is possble.

(b) Are these embryos genetically similar or different ? Comment.

Watch Video Solution

71. Mention various devices to discourage self pollination and encourage cross pollination in flowering plants.

Watch Video Solution

72. The embryo sac in female gametophyte is seven cells and eight nucleated structure. Justify the statement with the help of a labelled diagram.

Watch Video Solution

73. List the charges that occur when an ovule matures into seed.

Watch Video Solution

Revison Exercises Iii Short Answer Questions

1. Arrange the following terms in the correct developmental sequence: Pollen grain, sporogenous tissue, microspore tetrad,

pollen mother cell, male gametes

Watch Video Solution

2. What is pollination? How is self-pollination different from cross pollination.

Watch Video Solution

3. In many grasses, seeds are formed only after fertilization. There are reports that, in some grasses seeds are formed without fertilization. Explain the phenomenon

Watch Video Solution

4. There are 16 chromosomes in a vegetative cell of pea plant. How many chromosomes will be in the following:

(i) Pollen grain (ii) Endosperm (iii) Antipodal (iv) Egg cell

Watch Video Solution

5. Why is parathenogensis considered as a speical mode of reproduction in plants?

Watch Video Solution

6. Draw well labelled structure of mature pollen grains.

Watch Video Solution

7. Draw a well labelled diagram of maize grain.

Watch Video Solution

8. What are true fruits and false fruits?

Watch Video Solution

9. What are false fruits ? Give two examples .

Watch Video Solution

10. When the pollers is transferred from anther to stigma of same flower, the pollination is called autogamy.

(a) Cleistogamous flowers are invariably autogamous. Explain.

(b) Geitonogamy is functionally cross pollination, but genetically similar to autogamy. Identify the statement. (Kerala Board 2017)

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

Watch Video Solution

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

Watch Video Solution

13. Write a short note on egg apparatus.

View Text Solution

14. Triple fusion.

Watch Video Solution

15. Explain any two out breeding devices that flowering plants have developed to encourage cross pollination

Watch Video Solution

16. Define chalazogamy and ornithophily .

Watch Video Solution

Revison Exercises B Questions From Cbse Board Examinations

1. Identify the type of flower shown in A and B. Which out of the two will produce an assured seed set.

View Text Solution

2. In the T.S. of a mature anther given below identify 'A' and 'B' and mention their function. 

View Text Solution

3. Mention the reasons for difference in ploidy of zygote and primary endosperm nucleus in an angiosperm.

Watch Video Solution

4. How does the floral pattern on Mediterranean orchid Ophrys guarantee cross pollination ?

Watch Video Solution

5. (i) Write the characteristics features of anther, pollen and stigma of wind polinated flowers.

(ii) How do flowers reward their insect pollinators ? Explain.

Watch Video Solution

6. Where is sporopollenin present in plants? State its significance with reference to its chemical nature.

Watch Video Solution

7. How do the pollen grains of Vallisneria protect themselves?

Watch Video Solution

8. State the advantage and disadvantage of cleistogamy.

Watch Video Solution

9. An anther with malfunctioning tapetum often fails to produce viable male gametophytes . Give one reason

Watch Video Solution

10. In angiosperms , zygote is diploid while primary endosperm cell is triploid . Explain.

Watch Video Solution

11. Name the organic materials the exine and latine of an angiosperm pollen grains are made up of. Explain the role of exine.

Watch Video Solution

12. List the post-fertilization events in angiosperms.

Watch Video Solution

13. Gynaeceum of a flower may be apocarpous or syncarpous. Explain with the help of an example each.

Watch Video Solution

14. A pollen grain in angiosperm at the time of dehiscence from an anther could be 2- celled or 3 celled . Explain . How are the cells placed within the pollen grain when shed at -a 2 - celled stage ?

Watch Video Solution

15. " Pollen grains in wheat are shed at 3-celled stage while in peas they are shed at 2-celled stage". Explain. Where are germ pores present in a pollen grain ?

Watch Video Solution

16. How many cells are present in the pollen grain at the time of their release from anther ? Name the cells.

Watch Video Solution

17. A mature, embryo-sac in a flowering plant may possess 7-cells, but 8-nuclei. Explain with the help of a diagram only.

Watch Video Solution

18. In a flowering plant is microscope mother cell produce four male gametophytes while a megapore mother cell form only one female gametophyte. Explain.

Watch Video Solution

19. Comment upon the mode of pollination in Vallisneria and Eichhornia which have emergent flowers.

Watch Video Solution

Revison Exercises Iv Short Answer Type Ii Questions

1. Describe the vegetative reproduction by grafting method. Mention some examples of it.

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2. Describe the vegetative reproduction by artificial layering method. Give one example of it.

Watch Video Solution

3. Describe the development of embryo sac.

Watch Video Solution

4. Draw T.S. anther (well labelled)

Watch Video Solution

5. Describe the development of female gametophyte in angiosperm .

Watch Video Solution

6. Trace the development of a embryo sac from a megaspore mother cell.

Watch Video Solution

7. What is a flower? Differentiate its organs as essential and non essential floral organs.

Watch Video Solution

8. Explain double fertilization process.

Watch Video Solution

9. Draw a neat diagram of an anatropous ovule and label.

(a) Micropyle (b) Chalaza (c) Embryo sac (d) Synergids

Watch Video Solution

10. Differentiate between microsporogenesis and megasporogenesis by giving three points.

Watch Video Solution

11. Describe the structure of mature embryo sac in angiospermic plant.

Watch Video Solution

12. Explain the following terms:

(a) Apomixis (b) Polyembryony

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13. Differentiate between autogamy and geitonogany.

Watch Video Solution

14. Discuss about the development of female spore in flowering plants.

Watch Video Solution

15. Discuss structure of monocotyledonous embryo.

Watch Video Solution

16. How does pollination occur in Mediterranean orchids?

Watch Video Solution

17. Describe the structure of a typical dicotyledonous embryo.

Watch Video Solution

18. Distinguish between asexual and sexual reproduction. Why is vegetative reproduction also considered as a type of asexual reproduction?

Watch Video Solution

19. Draw well labelled diagram of L.S. of orthotropous ovule.

Watch Video Solution

20. Define double fertilization. Explain the process with the help of suitable diagram.

Watch Video Solution

21. Give the characteristic features of entomophilous flowers.

Watch Video Solution

22. Explain pollen-pistil interaction in detail.

Watch Video Solution

23. Explain the structure of female gametophyte with a well labelled diagram.

Watch Video Solution

24. Draw a well labelled diagram showing structure of L.S. of Malze grain.

Watch Video Solution

25. Draw a well labelled diagram showing enlarged sectional view of a pollen grain.

Watch Video Solution

26. Write a short note on double fertilisation in angiosperm.

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27. ASSISTED REPRODUCTIVE TECHNOLOGIES

Watch Video Solution

28. Describe the post-fertilization changes in a flower.

Watch Video Solution

29. Synergids have special cellular thickening at micropylar tip. Write the name and function of this structure

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30. In angiosperms female gametophyte is known as embryo sac. Explain its development

Watch Video Solution

31. Draw a well labelled diagram of embryo sac.

Watch Video Solution

32. Draw a neat labelled diagram of the structure of typical bisexual flower.

Watch Video Solution

33. What are the advantages of cross pollination?

Watch Video Solution

34. Explain the different types of endosperm with suitable diagram

Watch Video Solution

35. Give the characteristic features of anemophilous flowers.

Watch Video Solution

36. Draw a neat labelled diagram of T.S. of mature anther.

Watch Video Solution

37. Write two points of differences between anemophilous and entomophilous flowers.

Watch Video Solution

38. Describe the structure of angiospermous embryo sac.

Watch Video Solution

39. What is secondary nucleus? What is its fate when fertilized by sperm?

Watch Video Solution

40. What is triple fusion? How does it take place?

Watch Video Solution

41. Draw diagram of embryo sac and label the following:

(i) Egg cell (ii) Polar Nuclei (iii) Synergids

Watch Video Solution

42. Double fertilization is a characteristic feature of angiosperms.

(a) Which are the events in double fertilization?

(b) Name the triploid nucleus formed as a result of double fertilization

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Revison Exercises Vi Long Answer Type Questions

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

Watch Video Solution

2. Describe in sequence the events that lead to the development of a 3-celled pollen grain from microscope mother cell in angiosperms.

Watch Video Solution

3. (a) Draw a neat and well labelled diagram of pollen sac.

(b) Draw a neat and well labelled diagram of empryo sac.

Watch Video Solution

4. Explain the process of double fertilization in flowering plants. Draw diagrams also

Watch Video Solution

5. Explain microsporogenesis in flowering plants.

Watch Video Solution

6. Describe different types of cross pollination in plants.

Watch Video Solution

7. Differentiate between self and cross pollination. Mention two contrivances of each.

Watch Video Solution

8. WHAT IS APOMIXIS AND POLYEMBRYONY

Watch Video Solution

9. Define double fertilization. Explain the process with the help of suitable diagrams.

Watch Video Solution

10. Raja a science student observed the structure of mature embryo sac comprising antipodals, central cells and egg apparatus. Explain each one of them.

Watch Video Solution

11. Explain megasporogenesis till the formation of embryo sac. Support your answer with a labelled diagram.

Watch Video Solution

12. What is placenta ?Give its functions ?

Watch Video Solution

13. Explain the formation of embryo sac in plants.

Watch Video Solution

14. Explain the structure of typical angiospermic ovule.

Watch Video Solution

15. With the help of labelled diagrams, depict the stages of a microspore maturing into a pollen grain.

Watch Video Solution

16. Describe double fertilization and its significance.

Watch Video Solution

17. (a) Define cleistogamy. What type of pollination occurs in cleistogamous flowers?

(b) Write any six characteristic features of entomophilous flowers.

Watch Video Solution

18. Draw a neat labelled diagram of T.S. of mature anther.

Watch Video Solution

19. With the help of a labelled diagram, describe the structure of typical anatropous ovule.

Watch Video Solution

20. Explain with the help of a diagram the development of a mature embryo sac from a megaspore mother cell in angiosperm.

Watch Video Solution

21. (i) Draw a diagram of a section of a megasporangium of a flowering plant and label funiculus, micropyle, nucellus and embryo sac in it.

(ii) Name the organic material exine of the pollen grain is made up of. How is this material advantageous to the pollen grain?

Watch Video Solution

22. Describe the post festulolium changes in embryo sac.

Watch Video Solution

23. Write an essay on the development of female gametophyte. Illustrate the answer with suitable diagram.

Watch Video Solution

24. What is crom pollination? Write two advantages of crow-pollination,

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25. What is megasporogenesis? Explain the development of eight nucleate embryo sac in flowering plants.

Watch Video Solution

Competition File Objective Type Questions Mcq

1. Type of pollination in Comunelina is :

A. Chasmogamy

B. Geitonogamy

C. Xenogamy

D. Cleistogamy

Answer:

Watch Video Solution

2. The process of embryo formation without fertilisation is known as:

A. Apospory

B. Apogamy

C. Parthenocarpy

D. Polyembryony

Answer:

Watch Video Solution

3. Unisexuality of flowers prevents

A. Geitonogamy, but not xenogamy

B. Autogamy and geitonogamy

C. Autogamy, but not geitonogamy

D. Both geitonogamy and xenogamy

Answer:

Watch Video Solution

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

A. Nucellus and antipod cells

B. Egg nucleus and secondary nucleus

C. Megaspore mother cell and antipodals cells

D. Egg cell and antipodal cells

Answer:

Watch Video Solution

5. A typical angiosperm embryosac at maturity is :-

A. 4 nucleate - 2 celled

B. 8 nucleate -7 celled

C. 4 nucleate - 4 celled

D. 8 nucleate - 4 celled

Answer:

Watch Video Solution

6. Cleavage polyembryony occurs in

A. Pirus

B. Mini Cycas

C. Cycas

D. Ephedra

Answer:

Watch Video Solution

7. Micropyle occurs is

A. 1, 2 and 3 are correct

B. 1 and 2 are correct

C. 2 and 4 are correct

D. 1 and 3 are correct

Answer:

Watch Video Solution

8. One of the ex situ conservation methods for endangered species is

A. Wild-life sanctuaries

B. Biosphere reserves

C. Cryopreservation

D. National parks

Answer:

Watch Video Solution

9. Vegetative fertilization is also called as:

A. Triple fusion

B. True fertilization

C. Syngamy

D. Generative fertilization

Answer:

Watch Video Solution

10. Embryo developed from the somatic cells are called

A. Cybrids

B. Embryoids

C. Callus

D. Hybrids

Answer:

Watch Video Solution

11. Egg apparatus consists of

A. Polar nuclei

B. Antipodal

C. Egg +2 synergids

D. Nucellus

Answer:

Watch Video Solution

12. Entomophilous flowers are pollinated by:

A. Birds

B. Insects

C. Wind

D. Bats

Answer:

Watch Video Solution

13. In double fertilization

A. Two male gametes fuse with two eggs

B. One male gamete fuses with the egg and the other fuses with the secondary nucleus

C. One male gamete fuses with the egg and the other fuses with the antipodal

D. One male gamete fuses with the antipodal and the other fuses with the diploid nucleus

Answer:

Watch Video Solution

14. Heterotrophic fungi can live as

A. Saprophytes

B. Symbionts

C. Parasites

D. All of these

Answer:

Watch Video Solution

15. Transfer of pollen from anthers of one flower to the stigma of another flower of the same plant is

A. Geitonogamy

B. Allogamy

C. Xenogamy

D. Siphonogamy

Answer:

Watch Video Solution

16. Synergids are

A. Haploid

B. Diploid

C. Triploid

D. Tetraploid

Answer:

Watch Video Solution

17. The residual persistent nucellus occurs in

A. Perisperm

B. Pericarp

C. Integuments

D. None of these

Answer:

Watch Video Solution

18. Which of the following condition of angiospermic embryo sac is seen at maturity?

A. 7 celled, 8 nucleate

B. 7 celled, 7 nucleate

C. 8 celled, 8 nucleate

D. 8 celled, 7 nucleate

Answer:

Watch Video Solution

19. Ruminate endosperm is found in :

A. Cruciferae

B. Asteraceae

C. Euphorbiaceae

D. Annonaceae

Answer:

Watch Video Solution

20. In which of the following kinds of ovules, the embryo sec is horse-shoe shaped

A. Hemitropous ovule

B. Orthotropous ovule

C. Amphitropous ovule

D. Circinotropous ovule

Answer:

Watch Video Solution

21. The female gametophyte in angiosperm is:

A. Carpel

B. Ovule

C. Embryo sac,

D. Egg

Answer:

Watch Video Solution

22. Seed develop from

A. Embryo

B. Embryo sac

C. Ovary

D. Ovule

Answer:

Watch Video Solution

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

A. Geitonogamy

B. Xenogamy

C. Autogainy

D. Apogamy

Answer:

Watch Video Solution

24. The egg apparatus of angiosperms comprises

A. An egg cell and two antipodals

B. An egg cell and two synergids

C. An egg cell and two polar nuclei

D. An egg cell and the central cell

Answer:

Watch Video Solution

25. To meet the demands of the society, in vitro production of a large number of plantlets in a short duration is practised in floriculture and horticulture industry today is called .....

A. Hybridoma technology

B. Somaclonal variation

C. Somatic hybridization

D. Micropropagation

Answer:

Watch Video Solution

26. Which of the following statements about sporopollenin is false?

A. Exine is made up of sporopollenin

B. Sporopollenin is one of the resistant organic materials

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

D. Sporopollenin can withstand high temperatures and strong acids

Answer:

Watch Video Solution

Watch Video Solution

27. In angiosperms, functional megaspore develops into

A. Endosperm

B. Pollen sac

C. Embryo sac

D. Ovule

Answer:

Watch Video Solution

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

A. Geitonogamy

B. Xenogamy

C. Chasmogamy

D. Cleistogamy

Answer:

Watch Video Solution

29. Wind pollination is common in

A. Legumes

B. Lilies

C. Grasses

D. Orchids

Answer:

Watch Video Solution

30. Filiform apparatus is a characteristic feature of

A. Suspensor

B. Egg

C. Synergid

D. Zygote

Answer:

Watch Video Solution

31. Nucellar polyembryony is reported in species of

A. Citrus

B. Gossypium

C. Triticum

D. Brassica

Answer:

Watch Video Solution

32. A haploid plant produces male or female gametes by

A. Binary fission

B. Mitosis

C. Meiosis

D. Amitosis

Answer:

Watch Video Solution

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

A. Xenogamy

B. Geitonogamy

C. Chasmogamy

D. Autogamy

Answer:

Watch Video Solution

34. Embryo sac is also known as

A. Microgametophyte

B. Megagametophyte

C. Microsporangium

D. Megasporangium

Answer:

Watch Video Solution

35. Which one of the following statements is wrong?

A. When pollen is shed at two-celled stage, double fertilization does not take place

B. Vegetative cell is larger than generative cell

C. Pollen grains in some plants remain viable for months

D. Intine is made up of cellulose and pectin

Answer:

Watch Video Solution

36. Plants with ovaries having only one ore a few ovules are generally pollinated by

A. Bees

B. Butterflies

C. Birds

D. Wind

Answer:

Watch Video Solution

37. What is the function of germ pore?

A. Emergence of radicle

B. Absorption of water for seed germination

C. Initiation of pollen tube

D. Release of male gemetes

Answer:

Watch Video Solution

38. The innermost wall layer of microsporangium nourishing the developing pollen grains is known as:

A. Endodermis

B. Endothecium

C. Tapetum

D. Sporogenous tissue

Answer:

 Watch Video Solution

39. The type of pollination in which genetically different pollen grains are brought to stigma is :

A. Geitonogamy

B. Cleistogamy

C. Xenogamy

D. Chasmogamy

Answer:

Watch Video Solution

40. Sporopollenin an organic material is present in

A. Stigma

B. Style

C. Exine

D. Intine

Answer:

Watch Video Solution

41. In general, pollen tube enter the ovule through

A. Micropyle

B. Chalaza

C. Hilum

D. Funicle

Answer:

Watch Video Solution

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

A. Geitonogamy

B. Xenogamy

C. Cleistogamy

D. Chasmogamy

Answer:

Watch Video Solution

43. The endosperm cells in angiosperms are

A. Haploid

B. Diploid

C. Triploid

D. Tetraploid

Answer:

Watch Video Solution

44. The fleshy edible part of an apple is

A. Thalamus

B. Nucellus

C. Ovary

D. Endosperm

Answer:

Watch Video Solution

45. Which of these is a condition that makes flowers invariably autogamous?

A. Dioecy

B. Self-incompatibility

C. Cleistogamy

D. Xenogamy

Answer:

Watch Video Solution

46. Perisperm differs from endosperm in

A. Having no reserve food

B. Being a diploid tissue

C. Its formation by fusion of secondary nucleus with several sperms

D. Being a haploid tissue

Answer:

Watch Video Solution

47. Megasporangium is equivalent to

A. Fruit

B. Nucellus

C. Ovule

D. Embryo sac

Answer:

Watch Video Solution

48. Which one of the following is not a correct statement?

A. Botanical gardens have collection of living plants for reference.

B. A museum has collection of photographs of plants and animals.

C. Key is taxonomic aid for identification of specimens.

D. Herbarium houses dried, pressed and preserved plant specimens.

Answer:

Watch Video Solution

49. Triple fusion involves fusion of

A. Two male gametes and one egg

B. Two male gametes and secondary egg

C. Two eggs and one male gamete

D. One male gamete and two polar nuclei

Answer:

Watch Video Solution

50. Egg apparatus consists of

A. Egg and antipodals

B. Polar nuclei

C. Egg and synergids

D. Egg

Answer:

Watch Video Solution

51. Egg apparatus is present at:

A. Chalazal end of ovule

B. Micropylar end

C. In the centre of ovule

D. Scattered in the body of ovule

Answer:

Watch Video Solution

52. Nucellus is found in :-

A. Cell

B. Pollen

C. Ovule

D. Leaf

Answer:

Watch Video Solution

53. A type of reproduction, where fusion of gametes occurs is called:

A. Sexual reproduction

B. Asexual reproduction

C. Vegetative reproduction

D. Parthenogenesis

Answer:

Watch Video Solution

54. Transfer of pollen grains from the another to the stigma of another flower of the same plant is called

A. Autogamy

B. Allogarny

C. Xenogamy

D. Geitonogany

Answer:

Watch Video Solution

55. Total number of nuclei involved in double fertilization is

A. Two

B. Three

C. Four

D. Five

Answer:

Watch Video Solution

56. Insect pollinated flowers are known as:

A. Entomophilous

B. Ornithophilous

C. Anemophilous

D. Hydrophilous

Answer:

Watch Video Solution

57. Which one is female gametophyte

A. Embryo

B. Egg

C. Embryo sac

D. Antipodal cells

Answer:

Watch Video Solution

58. Which type of reproduction requires single parent?

A. Sexual reproduction

B. Asexual reproduction

C. Both (a) and (b)

D. None of these

Answer:

Watch Video Solution

59. Pollen grain of which plant cause allergy?

A. Parthenium

B. Coriander

C. Triticum

D. All of these

Answer:

Watch Video Solution

60. Secondary nucleus is formed by

A. Antipodal cells

B. Egg apparatus

C. Synergids

D. Two polar nude

Answer:

Watch Video Solution

61. A typical enbryo sac is 8-nucleate and :

A. single celled

B. seven celled

C. Eight celled

D. Four celled

Answer:

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62. Pollination by air is called:

A. Aerospory

B. Entomophily

C. Anemophily

D. Ornithophily

Answer:

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63. Pollen grain develops from .....of anther.

A. Epidermis

B. Endothecium

C. Tapetum

D. Sprogenous tissue

Answer:

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

A. Oospore

B. Integument

C. Endosperm

D. Cotyledon

Answer:

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65. Large Stout, nocturnal flowers producing copious nectar and emitting fermenting fruity odour are the adaptation for

A. Entomophily

B. Ornithophily

C. Chiropterophily

D. Anemophily

Answer:

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66. The tissue that nourishes the developing pollen grain is:

A. Taptelum

B. Endothecium

C. Endothelium

D. Middle layer

Answer:

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67. Double fertilization involves :-

A. Fertilization of the egg by two male gametes

B. Fertilization of two eggs in the same embryo sac by two sperms brought by one pollen tube

C. Fertilization of the egg and the central cell by two sperms brought by different pollen tubes

D. Fertilization of the egg and the central cell by two sperms brought by the same pollen tube.

Answer:

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68. Which one of the following is not a correct explanation of cross pollination?

A. The pollen grains of male flowers are transferred to the stigma of the female flowers.

B. The pollen grains are transferred from one flower to another flower, of another plant of the same species.

C. The pollen grains are transferred from one flower to another flower situated on the same plant.

D. The pollen grains of one flower are transferred to the stigma of the same flower.

Answer:

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69. In angiosperms,microsporogenesis and megasporogenesis

A. Involve meiosis

B. Occur in ovule

C. Occur in anther

D. Form gametes without further divisions

Answer:

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70. The term 'polyadelphous' is related to

A. Gynoecium

B. Androecium

C. Corolla

D. Calyx

Answer:

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71. In majority of angiosperms:

A. Egg has a filiforn apparatus

B. There are numerous antipodial cells

C. Reduction division occurs in the megaspore mother cells

D. A small central cell is present in embryo sac

Answer:

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72. Pollination in water hypacinth and water lily is brought about by the agency of

A. Water

B. Insects or wind

C. Birds

D. Bats

Answer:

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73. the ovule of an angiosperm is technically equivalent to

A. Megasporangium

B. Megasporophyll

C. Megaspore mother cell

D. Megaspore

Answer:

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74. Which of the following statements is not correct

A. Pollen grains of many species can germinate on the stigma of a flower, but only one pollen tube of the same spore grows into the style

B. Insects that consum pollen or nectar withou bringing about pollination are called pollen/nectar robbers.

C. Pollen germination and pollen tube growth are regulated by chemical components of pollen interacting with those of the pistil.

D. Some reptiles have also been reported as pollinators in some plant species.

Answer:

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

A. Tapetum helps in the dehiscence of anther

B. Exine of pollen grains is made up of sporopollenin

C. Pollen grains of many species cause severe allergies

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

Answer:

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76. Proximal end of the filament of stamen is attached to the

A. Anther

B. Connective

C. Placenta

D. Thalamus or petal

Answer:

Watch Video Solution

77. Cotyledon of maize grain is called

A. Plumule

B. Coleorhiza

C. Coleoptile

D. Scutellum

Answer:

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78. Fowers which have single ovule in the ovary and are packed into inflorescence are usually pollinated by

A. Bee

B. Wind

C. Bat

D. Water

Answer:

Watch Video Solution

79. A dioecious flowering plant prevents both

A. Autogary and geitonogamy

B. Geitonogamy and xenogamy

C. Autogamy and xenogany

D. Cleistogamy and xenogam

Answer:

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80. Double fertilisation is exhibited by

A. Algae

B. Fungi

C. Angiosperm

D. Gymnosperm

Answer:

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81. Entry of pollen tube through micropyle is

A. Palynology

B. Mesogamy

C. Porogamy

D. Chalazogamy

Answer:

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82. Filiform apparatus are found in

A. Antipodals

B. Central cell

C. Secondary nucleus

D. Synergids

Answer:

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83. An embryo sac has:

A. 2 haplid nuclei

B. 4 haplid nuclei

C. 8 haplid nuclei

D. 4 haplid nuclei

Answer:

Watch Video Solution

84. In angiosperms, functional megaspore develops into

A. Endosperm

B. Pollen sac

C. Embryo sac

D. Fruit

Answer:

Watch Video Solution

85. In some plants, the female gamete develops into embryo without fertilization. This pheno menon is known as:

A. Autogamy

B. Parthenocarpy

C. Syngamy

D. Parthenogensis

Answer:

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

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

B. An 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:

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87. 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

Answer:

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88. Persistent nucellus in the seed is known as

A. Chalaza

B. Perisperm

C. Hilum

D. Tegmen

Answer:

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89. Extrusion of second polar body from egg nucleus occurs

A. After entry of sperm but before fertilization

B. After fertilization

C. Before entry of sperm into ovum

D. Simultaneously with first cleavage

Answer:

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Competition File Assertion Reasons Type Questions

1. Assertion : Continued self pollination generation after generation results in pure line formation .

Reason : By continued self - pollination plant becomes pure or homozygous for its characters.

A. If both Assertion and Reason are true and Reason is corret explanation of Assertion

B. If both Assertion and Reason are true and Reason is not corret explanation of Assertion

C. If Assertion is true but Reason is false

D. If both Assertion and Reason are false

Answer: A

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2. Assertion: In wheat and sugarcane, pollination takes place by water.

Reason: Water is required for irrigation of wheat and sugarcane.

A. If both Assertion and Reason are true and Reason is corret explanation of Assertion

B. If both Assertion and Reason are true and Reason is not corret explanation of Assertion

C. If Assertion is true but Reason is false

D. If both Assertion and Reason are false

Answer: D

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3. Assertion: Protandry is a condition in which anthers mature earlier than stigma.

Reason: Cleistogamous flowers are bisexual and never open.

A. If both Assertion and Reason are true and Reason is corret explanation of Assertion

B. If both Assertion and Reason are true and Reason is not corret explanation of Assertion

C. If Assertion is true but Reason is false

D. If both Assertion and Reason are false

Answer: B

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4. Assertion : Stigma of pistil receives the pollen during pollination .

Reason : Pollen grains are produced in ovary of gynoecium .

A. If both Assertion and Reason are true and Reason is corret explanation of Assertion

B. If both Assertion and Reason are true and Reason is not corret explanation of Assertion

C. If Assertion is true but Reason is false

D. If both Assertion and Reason are false

Answer: C

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5. Assertion : Cross pollination in true genetic sense within species is called xenogamy.

Reason: When there is cross pollination, resultant hybrid is a combination of characters of two plants.

A. If both Assertion and Reason are true and Reason is corret explanation of Assertion

B. If both Assertion and Reason are true and Reason is not corret explanation of Assertion

C. If Assertion is true but Reason is false

D. If both Assertion and Reason are false

Answer: A

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6. Assertion : Grafting is attempted in those plants which show secondary growth.

Reason : Cambium during secondary growth show cell division in both stock and scion.

A. If both Assertion and Reason are true and Reason is corret explanation of Assertion

B. If both Assertion and Reason are true and Reason is not corret explanation of Assertion

C. If Assertion is true but Reason is false

D. If both Assertion and Reason are false

Answer: A

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7. Assertion : Plants have wider ranger of distribution which are distributed by spores.

Reason : Spores are easily dissiminated by water .

A. If both Assertion and Reason are true and Reason is corret explanation of Assertion

B. If both Assertion and Reason are true and Reason is not corret explanation of Assertion

C. If Assertion is true but Reason is false

D. If both Assertion and Reason are false

Answer: D

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8. Assertion: When embryo sac develops from magaspore mother cell, it is called diplospory,

Reason: In diplospory, two spores are formed.

A. If both Assertion and Reason are true and Reason is corret explanation of Assertion

B. If both Assertion and Reason are true and Reason is not corret explanation of Assertion

C. If Assertion is true but Reason is false

D. If both Assertion and Reason are false

Answer: C

9. Assertion : Monosporic, 8 nucleate embryo sac is called Polygonum type.

Reason : Leaves increase the size of plant

A. If both Assertion and Reason are true and Reason is corret explanation of Assertion

B. If both Assertion and Reason are true and Reason is not corret explanation of Assertion

C. If Assertion is true but Reason is false

D. If both Assertion and Reason are false

Answer: C

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10. Assertion: The first part of dicot embryo to appear above ground is the leaf.

Reason: Leaves increase the size of plant.

A. If both Assertion and Reason are true and Reason is corret explanation of Assertion

B. If both Assertion and Reason are true and Reason is not corret explanation of Assertion

C. If Assertion is true but Reason is false

D. If both Assertion and Reason are false

Answer: D

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11. Assertion: The ovule is antegeruc in Santalum.

Reason : Ovule without integument is called anlegenic.

A. If both Assertion and Reason are true and Reason is corret explanation of Assertion

B. If both Assertion and Reason are true and Reason is not corret explanation of Assertion

C. If Assertion is true but Reason is false

D. If both Assertion and Reason are false

Answer: B

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12. Assertion : If an endosperm cell of angiosperm contains 24 chromosomes, the number of chromosomes in each cellor will be 16.

Reason : As endosperm is triploid and took cells axe diploid, the chromosomes under in each of root cell will be 16.

A. If both Assertion and Reason are true and Reason is corret explanation of Assertion

B. If both Assertion and Reason are true and Reason is not corret explanation of Assertion

C. If Assertion is true but Reason is false

D. If both Assertion and Reason are false

Answer: A

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13. Assertion: Seeded plants are highly evolved.

Reason : In spermatophyta, seeds are formed.

A. If both Assertion and Reason are true and Reason is corret explanation of Assertion

B. If both Assertion and Reason are true and Reason is not corret explanation of Assertion

C. If Assertion is true but Reason is false

D. If both Assertion and Reason are false

Answer: B

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14. Assertion Ovules after fertilisation develops into a fruit.

Reason The angiospermic fruits contain diploid endosperm.

A. If both Assertion and Reason are true and Reason is corret explanation of Assertion

B. If both Assertion and Reason are true and Reason is not corret explanation of Assertion

C. If Assertion is true but Reason is false

D. If both Assertion and Reason are false

Answer: D

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15. Assertion : Air layerings is commonly done in woody shrubs and trees.

Reason : They do not bear the bending branches near the ground .

A. If both Assertion and Reason are true and Reason is corret explanation of Assertion

B. If both Assertion and Reason are true and Reason is not corret explanation of Assertion

C. If Assertion is true but Reason is false

D. If both Assertion and Reason are false

Answer: A

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16. Give below are assertion and reason. Point out if both are true and reason is correct explanation (A), both true but reason is not correct explanation (B), assertion is true but reason is wrong (C), both are wrong (D). Assertion. Megaspore mother cell undergoes meiosis to produce four megaspores. Reason. Megaspore mother cells and megaspores both are haploid

A. If both Assertion and Reason are true and Reason is corret explanation of Assertion

B. If both Assertion and Reason are true and Reason is not corret explanation of Assertion

C. If Assertion is true but Reason is false

D. If both Assertion and Reason are false

Answer: C

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17. Assertion : Insects visit flowers to gather honey

Reason : Attraction of flower prevents the insect from damaging other part of the plant.

A. If both Assertion and Reason are true and Reason is corret explanation of Assertion

B. If both Assertion and Reason are true and Reason is not corret explanation of Assertion

C. If Assertion is true but Reason is false

D. If both Assertion and Reason are false

Answer: C

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18. Assertion : 7-celled, 8 nucleate and monosporic embryosac is called polygonum type of embryo sac

Reason : It was discovered by Hofmesister for the first time in polygonum.

A. If both Assertion and Reason are true and Reason is corret explanation of Assertion

B. If both Assertion and Reason are true and Reason is not corret explanation of Assertion

C. If Assertion is true but Reason is false

D. If both Assertion and Reason are false

Answer: C

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19. Assertion : Speed disposal by wind is called as anemochory.

Reason : The seeds are light, minute and may be winged.

A. If both Assertion and Reason are true and Reason is corret explanation of Assertion

B. If both Assertion and Reason are true and Reason is not corret explanation of Assertion

C. If Assertion is true but Reason is false

D. If both Assertion and Reason are false

Answer: A

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