BIOLOGY

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ASEXUAL AND SEXUAL REPRODUCTION IN PLANTS

Evaluation Textbook Questions Answers

1. Choose the correct statement from the following

A. Gametes are involved in asexual reproduction

B. Bacteria reproduce asexually by budding

C. Conidia formation is a method of sexual reroduction

D. Yeast reproduce by budding

Answer: D

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2. An eminent Indian embryologist is

A. S.R. Kashyap

B. P.Maheswari

C. M.S. Swamminathan

D. K.C. Mehta

Answer: B

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3. Identify the correctly matched pair :

Column - I	Column - II
(a) Tuber	Allium cepa
(b) Sucker	Pisita
(c) Rhizome	Musa
(d) Stolon	Zingiber

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4. Pollen tube was discovered by

A. J.G. Kolreuter

B. G.B. Amici

C. E.Strasburger

D. E.Hanning

Answer: B

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5. Size of pollen grains in Myosotis

A. 10 micrometer

B. 20 micrometer

C. 200 micrometer

D. 2000 micrometer

Answer: A

6. First cell of male gametophyte in angiosperm is

A. Microspore

B. Megaspore

C. Nucleus

D. Primary Endosperms Nucleus

Answer: A

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7. Match the following :

(p)	External fertilization	*(i)*	pollen grain
(q)	Androecium	*(ii)*	anther wall
(r)	Male gametophyte	*(iii)*	algae
(s)	Primary parietal layer	*(iv)*	stamens

A.

$(p)-(iv),(q)-(i),(r)-(ii),(s)-(iii)$

B.

$(p)-(iii),(q)-(iv),(r)-(i),(s)-(ii)$

C.

$(p)-(iii),(q)-(iv),(r)-(ii),(s)-(i)$

D.

$(p)-(iii),(q)-(i),(r)-(iv),(s)-(ii)$

Answer: B

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8. Arrange the layers of anther wall from locus to periphery

A. Epidermis, middle layers, tapetum, endothecium

B. Tapetum, middle layers, epidermis, endothecium

C. Endotheium, epidermis, middle layers, tapetum

D. Tapetum, middle layers, endothecium, epidermis

Answer: D

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9. Identify the incorrect pair :

A. sporopollenin - exine of pollen grain

B. Tapetum - nutritive tissue for developing micropores

C. Nucellus - nutritive tissue for developing embryo

D. Obturator - directs the pollen tube into micropyle

Answer: A

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10. Assertion : Sporopollenin preserves pollen in fossil deposits.

Reason : Sporopollenin is resistant to physical and biological decomposition

A. Assertion is true, Reason is false

B. Assertion is false, Reason is true

C. Both Assertion and Reason are not true

D. Both Assertion and Reason are true.

Answer: D

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11. Choose the correct statement(s) about tenuinucellate ovule

A. Sporogenous cell is hypodermal

B. Ovules have fairly large nucellus

C. Sporogenous cell is epidermal

D. Ovules have single layer of nucellus tissue

Answer: A::D

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12. Which of the following represent megagametophyte ?

A. Ovule

B. Embryo sac

C. Nucellus

D. Endosperm

Answer: B

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13. In Haplopappus gracilis , number of chromosomes in cells of nucellus is 4. What will be the chromosome number in Primary endosperm cell ?

A. 8

B. 12

C. 6

D. 2

Answer: C

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14. Transmitting tissue is found in

A. Micropylar region of ovule

B. Pollen tube wall

C. Stylar region of gynoecium

D. Integument

Answer: B

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15. The scar left by function in the seed is

A. tegmen

B. radical

C. epicotyls

D. hilum

Answer: D

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16. A Plant called X possesses small flower with reduced perianth and versatile anther . The probable agent for pollination would be

A. water

B. air

C. butterflies

D. beetles

Answer: B

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17. Consider the following statement(s)

In Protandrous flowers pistil matures earlier

In Protogynous flowers pistil matures earlier

Herkogamy is noticed in unisexual flower.

Distyly is present in Primula.

A. (i) and (ii) are correct

B. (ii) and (iv) are correct

C. (ii) and (iii) are correct

D. (i) and (iv) are correct

Answer: B

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18. Coelorhiza is found in

A. Paddy

B. Bean

C. Pea

D. Tridax

Answer: A

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19. Parthenocarpic fruits lack

A. Endocarp

B. Epicarp

C. Mesocarp

D. Seed

Answer: D

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20. In majority of plants pollen is liberated at

A. 1 celled stage

B. 2 celled stage

C. 3 celled stage

D. 4 celled stage

Answer: B

21. What is reproduction?

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22. Mention the contribution of Hofmeister towards Embryology.

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23. List out two sub-aerial stem modifications with example.

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24. What is layering ?

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25. What are clones ?

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26. A detached leaf of Bryophyllum products new plants. How ?

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27. Differentiate Grafting and Layering.

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28. "Tissue culture is the best method for propagating rare and endangered plant

species". Discuss.

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29. Distinguish mound layering and air layering.

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30. Explain the conventional methods adopted in vegetative propagation of higher plants.

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31. Highlight the milestones from the history of plant embryology.

Milestones in Plant Embryology.

32. Discuss the importance of Modern methods in reproduction of plant.

33. What is Cantharophily ?

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34. List any two strategy adopted by bisexual flowers to prevent self-pollination.

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35. What is endothelium ?

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36. ' The endosperm of angiosperm is different from gymnosperm " . Do you agree . Justify your answer.

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37. Define the term Diplospory .

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38. What is polyebryony ? How it can be commercially exploited.

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39. Why does the zygote divides only after the division of Primary endosperm cells ?

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40. What is mellitophily ?

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41. Endothecium is associated with dehiscence of anther Justify the statement .

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42. List out the functions of tapetum.

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43. Write short note on Pollen kitt.

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44. Distinguish tenuinucellate and crassinucellate ovules.

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45. Pollination in Gymnosperms in different from Angiosperms' - Give reasons.

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46. Write short note on Heterostyly.

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47. Enumerate the characteristic features of Entomophilous flowers.

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48. Discuss the steps involved in Microsporogenesis .

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49. With a suitable diagram explain the structure of an ovule.

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50. Give a concise account on steps involved in fertilization of an angiosperm plant.

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51. What is endosperm ? Explain the types.

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52. Describe the structure of dicot seed.

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53. (a) Give a detailed account on parthenocarpy. Add a note on its significance.

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Other Important Questions Answers I Choose The Correct Answers

1. Match the following :

(p) *Aspergillus*	(i) Root buds
(q) *Spirogyra*	(ii) Bud from eye
(r) *Millingtonia*	(iii) Conidia
(s) *Solanum tuberosum*	(iv) Fragmentation

A.

$(p) - (iv), (q) - (iii), (r) - (ii), (s) - (i)$

B.

$(p) - (iii), (q) - (iv), (r) - (i), (s) - (ii)$

C.

$(p) - (ii), (q) - (i), (r) - (iv), (s) - (iii)$

D.

$(p) - (iii), (q) - (i), (r) - (iv), (s) - (ii)$

Answer: B

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2. Match the following :

(p) Root cutting	(i) Mango
(q) Stem cutting	(ii) *Begonia*
(r) Leaf cutting	(iii) *Malus*
(s) Grafting	(iv) *Moringa*

A.

$(p)-(iv),(q)-(iii),(r)-(ii),(s)-(i)$

B.

$(p)-(iii),(q)-(iv),(r)-(i),(s)-(ii)$

C.

$(p)-(iii),(q)-(iv),(r)-(ii),(s)-(i)$

D.

$(p)-(ii),(q)-(i),(r)-(iv),(s)-(iii)$

Answer: C

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3. Match the following :

(p) Ubisch bodies	(i) Pollen grain
(q) Exine proteins	(ii) Anther wall
(r) Tapetum	(iii) Pollen wall formation
(s) Microspore	(iv) Rejection reaction

A.

$(p) - (iv), (q) - (iii), (r) - (ii), (s) - (i)$

B.

$(p) - (iii), (q) - (i), (r) - (iv), (s) - (ii)$

C.

$(p)-(ii),(q)-(i),(r)-(iv),(s)-(iii)$

D.

$(p)-(iii),(q)-(iv),(r)-(ii),(s)-(i)$

Answer: D

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4. Match the following :

(p) Female gametophyte	(i) Nutritive function

(q) Endothelium	(ii) Parenchym-atous tissue
(r) Funicle	(iii) Embryo sac
(s) Nucellus	(iv) Stalk of ovule

A.

$(p) - (iii), (q) - (i), (r) - (iv), (s) - (ii)$

B.

$(p) - (iv), (q) - (ii), (r) - (iii), (s) - (i)$

C.

$(p) - (ii), (q) - (i), (r) - (iv), (s) - (iii)$

D.

$(p) - (ii), (q) - (iii), (r) - (iv), (s) - (i)$

Answer: A

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5. Match the following :

(p) Anemophily	(i) Beetles
(q) Hydrophily	(ii) Insects
(r) Entomophily	(iii) Water
(s) Cantharophily	(iv) Wind

A.

$$(p)-(iv),(q)-(iii),(r)-(i),(s)-(ii)$$

B.

$(p)-(iv),(q)-(iii),(r)-(ii),(s)-(i)$

C.

$(p)-(iv),(q)-(i),(r)-(ii),(s)-(iii)$

D. (p)-(ii),(q)-(i),(r)- (iv),(s)-(iii)`

Answer: B

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6. ..... discovered the process of syngamy.

A. E.Strasburger

B. G.B. Amici

C. Hofmeister

D. E.Hanning

Answer: A

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7. Vegetative propagation takes place through leaf buds in :

A. Hibiscus

B. Begonia

C. Mango

D. Malus

Answer: B

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8. Inner most layer of anther wall is .....

A. Polysaccharides

B. Glycoprotein

C. α cellulose

D. β cellulose

Answer: C

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9. Matured anther cavity is filled with :

A. Megaspore

B. Young microspore

C. Embryo sac

D. Pollen grain

Answer: D

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10. Epihydrophily type of pollination takes place in:

A. Hydrilla

B. Elodea

C. Ipomea

D. Pistia

Answer: B

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11. Choose the odd one out.

A. Protogyny

B. Cleistogamy

C. Autogamy

D. Homogamy

Answer: A

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12. Find out the odd one.

A. Cutting

B. Grafting

C. Micropropagation

D. Air layering

Answer: C

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13. Choose the odd one.

A. Endothecium

B. Nucellus

C. Tapetum

D. Epidermis

Answer: B

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14. Identify the odd one.

A. Chalaza

B. Endothelium

C. Hilum

D. Ubisch bodies

Answer: D

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15. Choose the odd one out.

A. Orthotropous

B. Microsporous

C. Hemianatropous

D. Campylotropous

Answer: B

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16. Choose the inccorect pair.

Column - I	Column - II
(a) Amphitropous	*Alismataceae*
(b) Monosporic	*Polygonum*
(c) Circinotropous	*Cactaceae*
(d) Tetrasporic	*Allium cepa*

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17. Choose the correct pair.

Column - I	Column - II
(a) Homogamy	Cross fertilization
(b) Dichogamy	Anther mature first
(c) Monoecious	Coconut
(d) Dioecious	Maize

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18. Choose the incorrect pair.

Column - I	Column - II
(a) Gloriosa	Herkogamy
(b) Primula	Distyly
(c) Lythrum	Tristyly
(d) Self-sterility	*Hibiscus*

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19. Choose the incorrect pair.

Column - I	Column - II
(a) Lever mechanism	Aristalochia
(b) Trap mechanism	*Saliva*
(c) Pit fall mechanism	*Arum*
(d) Piston mechanism	Asclepiadaceae

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20. Identify the correct pair.

Column - I	Column - II
(a) Carunde	*Ricinus communis*
(b) Perisperm	Black pepper

(c) Aril	*Myristica*
(d) Ruminate endosperm	castor

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21. Assertion : The cells of endothecium are hygroscopic in nature.

Reason : They absorb water from air.

A. Assertion is true and the Reason is false.

B. Assertion is false and the Reason is true.

C. Both Assertion and Reason the true.

D. Both Assertion and Reason are false.

Answer: C

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22. Assertion : Pollen grains are the immediate product of meiosis of the microspore mother cell.

Reason : The pollen grain have diploid number of chromosomes.

A. Assertion is true and the Reason is false.

B. Assertion is false and the Reason is true.

C. Both Assertion and Reason the true.

D. Both Assertion and Reason are false.

Answer: D

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23. Assertion : The filiform apparatus of synergids guids the pollen tube into the egg.

Reason : It helps in the absorption and conduction of nutrients.

A. Assertion is true and the Reason is false.

B. Assertion is false and the Reason is true.

C. Both Assertion and Reason the true.

D. Both Assertion and Reason are false.

Answer: A

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24. Assertion (A) : Self - pollination is certain in cleistogamous flowers.

Reason (R) : Flowers never open and not expose reproductive organs.

A. Assertion is true and the Reason is false.

B. Assertion is false and the Reason is true.

C. Both Assertion and Reason the true.

D. Both Assertion and Reason are false.

Answer: C

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25. Assertion : In some bisexual flowers, anthers and stigma mature at different times.

Reason : This is a special adaptation in plants to prevent cross fertilization.

A. Assertion is true and the Reason is false.

B. Assertion is false and the Reason is true.

C. Both Assertion and Reason the true.

D. Both Assertion and Reason are false.

Answer: D

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26. Which of the following statement is called?

A. Budding is the method of asexual reproduction in spirogyra.

B. Formation of conidia is the method of asexual reproduction in penicillium

C. The asexual reproduction in planaria is the production of gametes

D. In hydra, asexual reproduction is through fragmentation method.

Answer: B

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27. Choose the incorrect statement.

A. In mango, grafting is followed for vegetative propagation.

B. In moringa, stem cutting method is followed for vegetative propagation.

C. In Hebiscus, leaf cutting method is followed for vegetative propagation.

D. In Ixora plant, layering method is followed by vegetative propagation.

Answer: C

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28. Find out the current statement.

A. Androecium and gynoecium are the essential organs for reproduction in plants.

B. In protandrous flowers the gynoecium matures first.

C. In protogynous flowers the androecium matures first.

D. None of above statement is correct.

Answer: A

29. Which of the following statement is false ?

A. The formation of haploid mierospores from diploid microspore mother cel is through meiosis.

B. The primary sporogenous cells may undergo a few meiotic division to form

sporogenous tissue.

C. The microspore mother cells are formed from the sporogenous tissue.

D. All the above statements are correct.

Answer: B

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30. Choose the correct statement.

A. Orthotropous type of ovalue is present in Cactaceae.

B. Anatropous type of ovules are found in dicots and monocots.

C. Hemianatropous type of ovule is present in Alismataceae.

D. Amphitropous type of ovule is present in Cactaceae.

Answer: B

Other Important Questions Answers Ii Answer The Following

1. Asexual reproduction

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2. Name some asexual reproduction methods with examples.

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3. What is meant by epiphyllous buds?

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4. List out two types of layering.

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5. Define totipotency and unipotency.

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6. Write down the disadvantages of conventional method of propagation of plants.

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7. Define microsporogenesis.

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8. What is corpusculum?

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9. Define pollen calender. What are the allergic reactions caused by pollen grains?

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10. What is meant by chalaza ?

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11. What is autogamy?

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12. What is herkogamy?

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13. Mention any two birds, that help in pollination.

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14. Fertilization

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15. Define porogamy.

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Other Important Questions Answers Iii Answer The Following

1. List out any three scientists who worked on plant embryology.

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2. Write the advantages of natural vegetative reproduction.

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3. Write short notes on approach grafting.

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4. What does the term micropropagation refer to ?

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5. Mention any three functions of trapetum.

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6. Write short notes on pollenkitt.

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7. Define cross pollination and explain its types.

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8. Distinguish between monoecious and dioecious plants .

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9. What is zoophily and entomophily?

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Other Important Questions Answers Iv Answer The Following

1. Describe the methods of layering.

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2. Briefly explain about the types of tapetum.

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3. Explain the different types of Ovule with suitable diagram.

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4. Enumerate the characteristic features of anemophilous plants.

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5. Who coined the term Apomixis ? Define it.

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