BIOLOGY

BOOKS - CHETANA PUBLICATION

REPRODUCTION IN LOWER AND HIGHER PLANTS

Example

1. What is reproduction?

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2. Why a reproduction is an essential process ?

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3. How do plants reproduce without seeds ?

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4. How does vegetative propagation occur in nature ?

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5. What are the two types of reproduction ?

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6. Asexual reproduction results in production of genetically identical progeny - Explain .

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7. Enlist different modes of asexual reproduction.

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8. What is asexual reproduction?

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9. Explain with examples different methods of asexual reproduction in plants.

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10. What is vegetative reproduction? Give examples of vegetative propagation through roots, stem and leaves.

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11. Prepare a chart for natural vegetative propagation exhibited by floweriing plants

indicating the vegetative part and different examples.

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12. Describe any three techniques of artificial method of vegetative propagation.

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13. Why does gardener choose to propagate plan asexually ?

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14. What is flower? Give an account of accessory whorls of flower. Flower is highly modified & condensed shoot specially designed for sexual reproduction.

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15. What is sexual reproduction ?

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16. State the general characteristics of sex reproduction.

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17. State the sequential events that occur in sexual reproduction.

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18. Mention floral whorls of a typical flower.

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19. Name the male reproductive whorl of a flower.

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20. Write a short note on carpel in a typical flower.

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21. Name the layer which supplies nourishment is the developing pollen grains. OR Name teh layer which supplies nourishment to the developing pollen grains.

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22. Enlist the laters of the wall of mature anther from outside to inside.

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23. Describe T.S. of anter with the help of suitable diagram.

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24. What is microsporogenesis ?

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25. List the layers of the sporoderm and give their components.

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26. Describe the structure of Pollen grain or Microspore.

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27. Why pollen grains can remain well-preserved as fossils?

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28. Define- Pollen Viability

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29. Name the contents of the male gametophyte.

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30. What is germpore? Give its function.

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31. Explain the stages involved in the maturation of microspore into male gametophyte.

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32. Describe the development of male gametophyte in Angiosperms.

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33. Draw a labelled diagram of the L.S. of anatropous ovule and list the components of embryo sac and mention their fate after fertilization.

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34. Describe the structure of anatropous ovule with the help of neat and labelled diagram.

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35. Write a note on Egg apparatus.

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36. Define megasporogenesis.

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37. Describe the development of female gametophyte in Angiosperms.

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38. Describe the structure of an embryo sac.

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39. Describe monosporic development.

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40. Define pollination.

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41. Distingusih between self and cross pollination. Classify them

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42. What is Autogamy ?

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43. Name the type of pollination which is functionally like cross pollination but do not bring about genetic variations.

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44. What do bananas and figs have in common?

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45. Write a short note on : Xenogmy

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46. Describe various types of pollination based on pollinating agents.

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47. Describe the biotic and abiotic agents of pollination.

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48. What is hydrophily ?

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49. Differentiate between Hypohydrophily and Epihydrophily

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50. What is pollen-Pistil Interaction?

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51. Incompatibilty is a natral barrier in the fusion of gametes. How will you explain this statement?

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

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53. What is the list of events that takes place in pollen-pistil interaction.

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54. Who discovered the process of double fertilization in angiosperm ?

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55. What is mesogamy ?

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56. What is chalazogamy ?

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57. What is porogamy?

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58. What is Siphonogamy?

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59. What is syngamy?

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60. How many haploid cells are present in a mature embryo sac ?

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61. Even though each pollen grain has 2 male gemetes, why at least 20 pollen are required to fertilise, 20 ovules in carpel?

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62. What is the function of filiform apparatus?

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63. Describe the process of double fertilization.

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64. State the significance of double fertilization.

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65. Name the triploid nutritive tissue formed after fertilization.

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66. Name the type of endosperms on the basis their mode of development.

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67. Draw a neat labelled diagram of Development of embryos in monocot

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68. What are the parts of the fruits?

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69. What is a difference between true fruit and false fruit?

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70. Pollination and seed formation are very crucial for fruit formation. Give reason.

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71. Write a note on endospermic and non-endospermic seeds.

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72. Describe the development of seed and fruit in angiosperms.

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73. Give significance of seed and fruit formation.

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74. Write a note on dormancy of seeds.

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75. Name the parts of pistil which develop into fruits and seeds.

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76. Exalbuminous seeds.

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77. How long seeds stay viable/healthy?

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78. can old seeds stil grow ?

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79. What is Apomixis ?

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80. Why is apomixis important in plant breeding ?

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81. What is Apogamy and Apospory ?

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82. Are pollination and fertilization necessary in apomixis ?

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83. Collect information about seed mother Rahibai's stroy. How does she save over 80 varieties of native seeds ?

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84. Define Parthenocarpy.

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85. State the chemical action taking place in the process of parthenocarpy.

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86. Give examples of parthenocarpic plants.

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87. Defin: Polyembryony

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88. How polyembryony can be commercially exploited ?

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89. Why are some seeds of Citrus referred to as poly-embryonic ?

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90. Write a note on Polembryony.

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91. Distinguish between sexual and asexual reproduction

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92. Diagram based Questions.

Fill in the blankd: The .....collects pollen grains.

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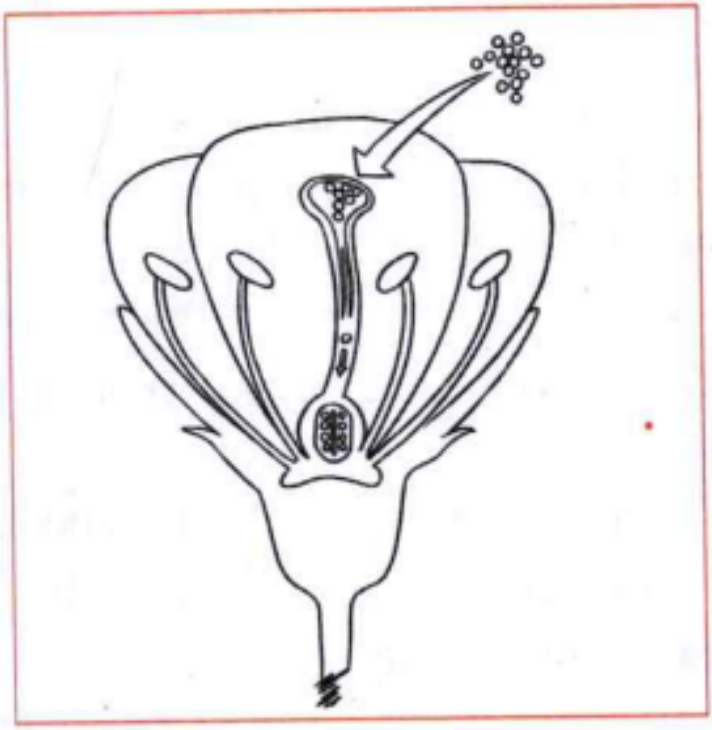
93. Diagram based Questions.



Fill in the blankd: The male whorl called Androecium produces ..... .

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94. Diagram based Questions.

Fill in the blankd: The pollen grains represent the .....

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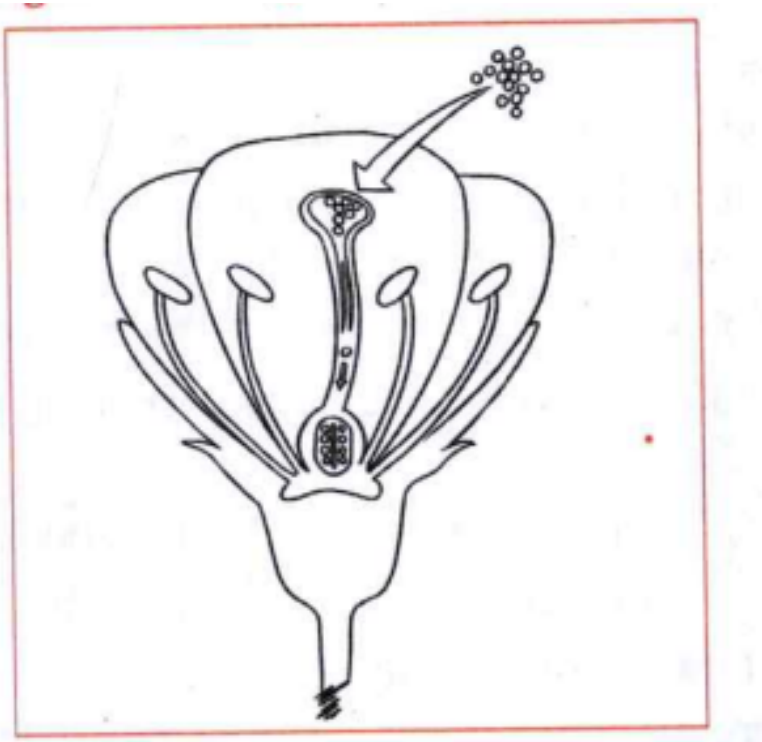
95. Diagram based Questions.



Fill in the blankd: The .....contains the egg or ovum.

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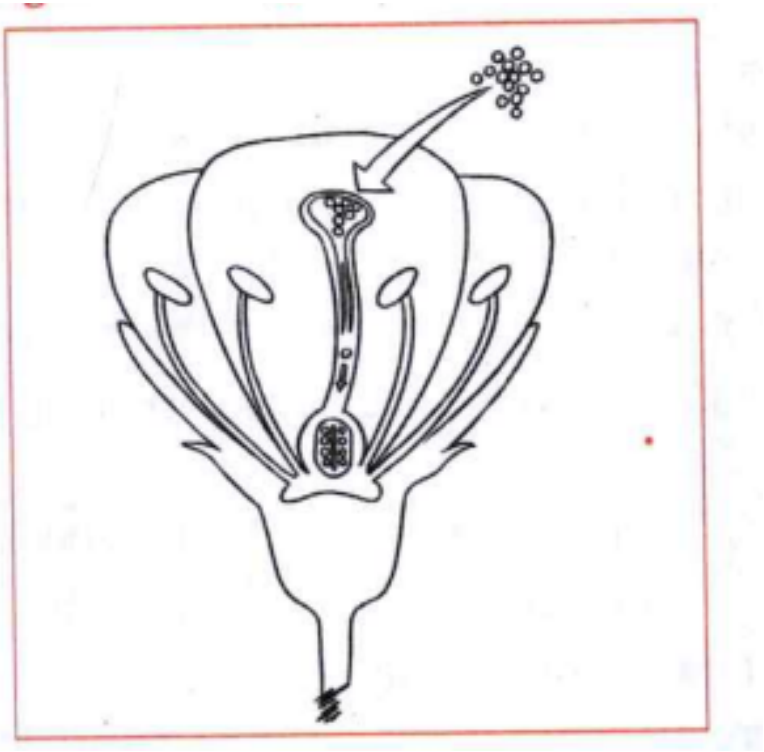
96. Diagram based Questions.



Fill in the blankd: .....When one male gamete and the egg fuse together. The fertilized egg grows into seed from which the new plants can grow.

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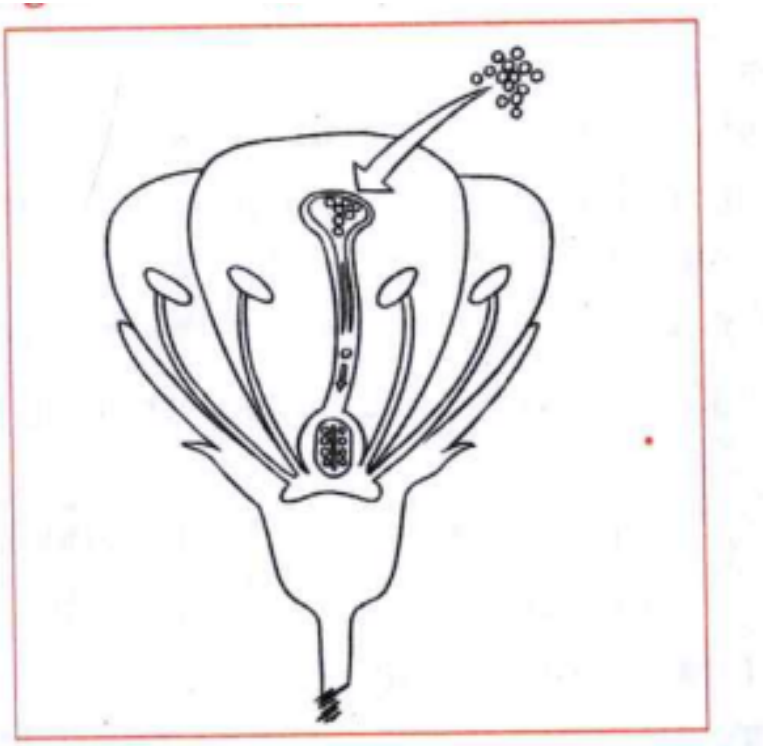
97. Diagram based Questions.



Fill in the blankd: The .....is the base

part of flower to which other floral parts are attached.

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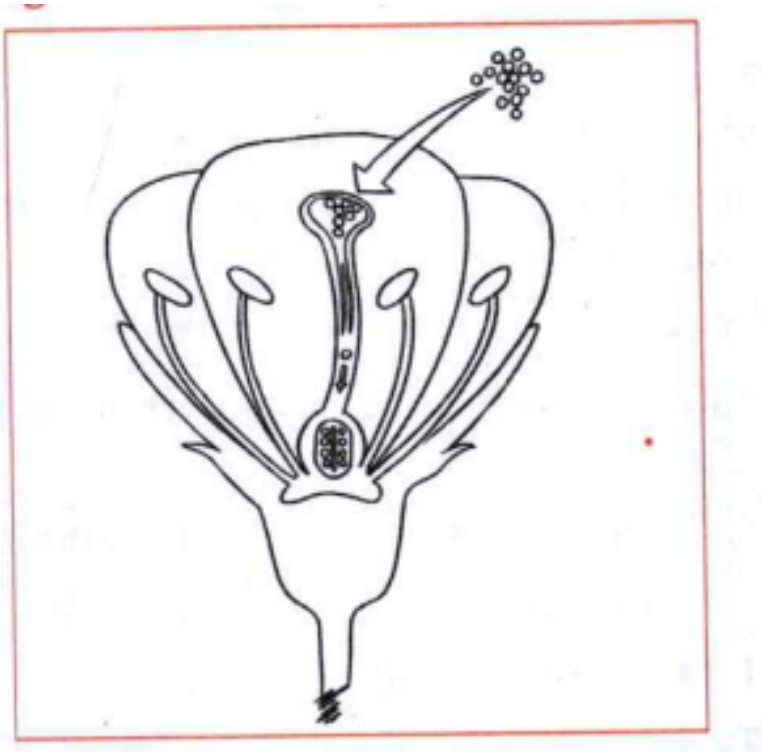
98. Diagram based Questions.



Fill in the blankd: .....is the transfer of polen grains from anther of the flower to the stigma of the same of a different flower.

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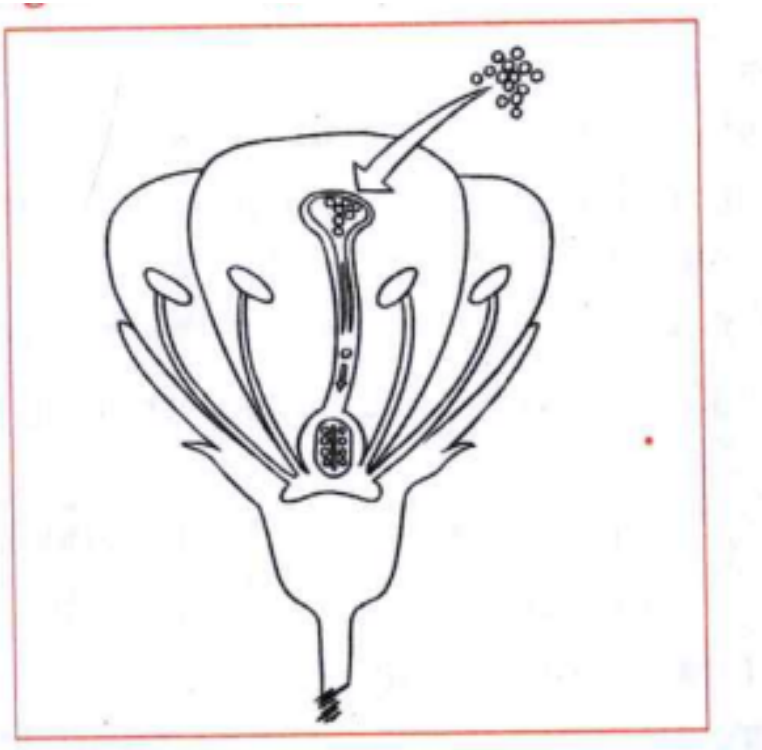
99. Diagram based Questions.



Fill in the blank: Once the pollen reaches the stigma, pollen tube traverses down through ..... .to the ovary where fertilization occurs.

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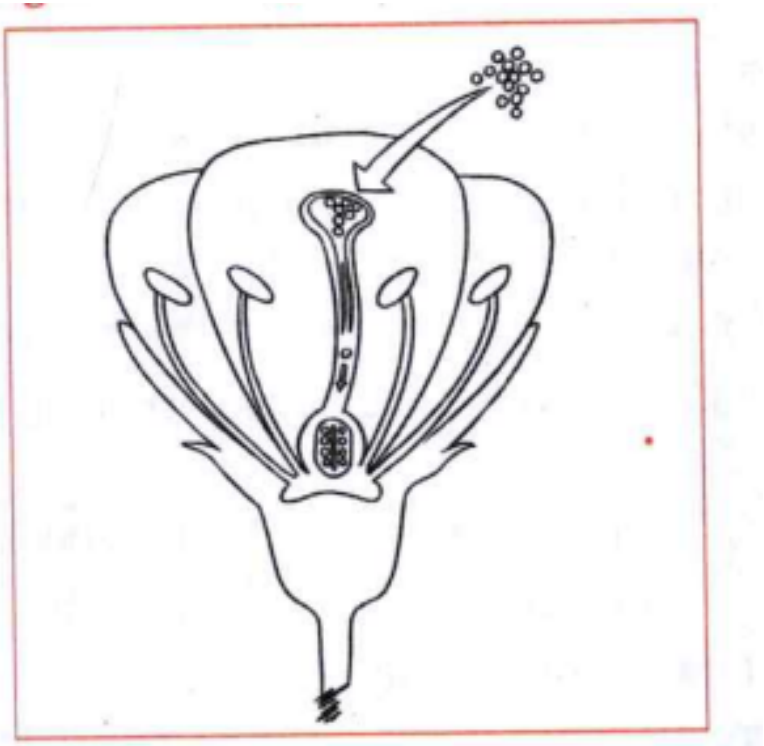
100. Diagram based Questions.



Fill in the blank: The .....are coloured to attract the insects that carry the pollen. Some

flowers also produce ..... Or .....

that attract insects.

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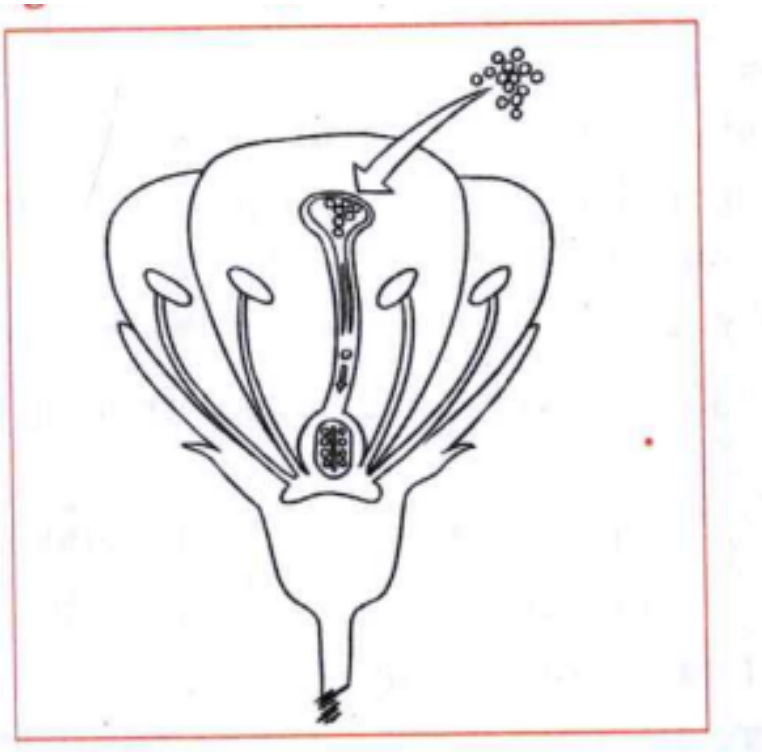
101. Diagram based Questions.



Fill in the blank: The whorl .....is green that protects the flower until it opens.

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102. Label the parts of the seed .

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103. Match entries in column I with those of column II and choose the correct ansers.

Column I		Column II	
(A)	Funiculus	(i)	Hilum
(B)	Scar of Ovule	(ii)	Tegmen
(C)	Zygote	(iii)	Testa
(D)	Inner integument	(iv)	Stalk of seed
		(v)	Embryo

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Exercise

1. Insect pollinated flowers usually posses .....

A. Sticky pollens with rough surface.

B. Large quantities of pollens.

C. Dry pollens with smooth surface.

D. Light coloured pollens.

Answer:

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2. In ovule meiosis occurs in .....

A. Integument.

B. Nucellus.

C. Megaspore.

D. Megaspore Mother Cell.

Answer:

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3. The ploidy level is NOT same in .....

A. Integument and uncellus.

B. Root tip and Shoot tip.

C. Secondary uncleus and endosperm.

D. Antipodals and Synergids.

Answer:

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4. Which of the following types require pollinator but result in genetically similar to autogamy ?

A. Geitonogemy.

B. Xenogamy.

C. Apogamy.

D. Cleistogamy.

Answer:

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5. If diploid chromosome number in a flowering plant is 12, then which one of the follwing will have 6 chromosomes ?

A. Endosperm

B. Leaf cell.

C. Cotyledons

D. Synergids

Answer:

6. In Angiosperms, endosperm is formed by/due to .....

A. Free unclear divisions of megaspore.

B. Polar unclei.

C. Polar unclei and male gamete.

D. Synergids and male gamete.

Answer:

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7. Point-out the odd one .....

A. Necullus.

B. Embryo sac

C. Micropyle.

D. Pollen Grain

Answer:

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8. ..... reproduces asexually by producing flagellated motile zoospores.

A. Yeast

B. Spirogyra

C. Chlamydomonas

D. Paramoecium

Answer:

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9. In grafting rooted plant is used as a.....

A. Scion

B. Stock

C. Stem

D. Root

Answer:

10. To produce 40 pollen grains ..... Microspore Mother Cells are required.

A. 40

B. 20

C. 10

D. 80

Answer:

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11. A flower with many free carpels is called as .....

A. Apocarpous

B. Pentacarpous

C. Monocarpous

D. Syncorpous

Answer:

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12. How many mitotic divisions are required to produce a mature male gametophyte from a single pollen grain .....

A. 4

B. 1

C. 3

D. 2

Answer:

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13. The stalk of the ovule is .....

A. Placenta

B. Funiculus

C. Nucellus

D. Hilum

Answer:

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14. ..... Is a hair like projections shown by synergid, which guide the pollen tube towards the egg.

A. Egg Apparatus

B. Antipodal Cells

C. Filiform Apparatus

D. Secondary Nucleus

Answer:

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15. ..... Is a female gametophyle.

A. Embryo sac

B. Embryo

C. Megasporangium

D. Endosperm

Answer:

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16. The type of pollination observed in Zostera and Vallisneria respectively are.....

A. Anemophily and hydrophily

B. Ephiydrophily and hypohydrophily

C. Hypohydrophily and epihydrophily

D. Ornithophily and hydrophily

Answer:

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17. The bisexual flowers which do not open to favour autogamy are called .....

A. Chasmogamous

B. Cleistogamous

C. Homogamous

D. Heterogamous

Answer:

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18. In Calotropis self-pollination is avoided by .....

A. Self-sterility

B. Heterostyly

C. Protogyny

D. Herkogamy

Answer:

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19. The number of meiotic divisions required to produce 200 seeds in a pea plant is.....

A. 250

B. 100

C. 200

D. 400

Answer:

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20. ..... And ..... are two events of sexual reproduction in flowering plants.

A. Syngamy and triple fusion

B. Fragmentation and binary fission

C. Parthenocarpy and polyembryony

D. Spore formation and budding

Answer:

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21. Endosperm is .....

A. Diploid

B. Haploid

C. Triploid

D. Tetraploid

Answer:

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22. Formation of fruit without fertilization is called .....

A. Polygamy

B. polyembryony

C. Parthenocarpy

D. Homogamy

Answer:

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23. In porogamy the pollen tube enters the ovule through .....

A. Micropyle

B. Chalaza

C. Integuments

D. Funicle

Answer:

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24. Pollination through ..... Is known as chiropterophily

A. Birds

B. Bats

C. Insects

D. Wind

Answer:

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25. Yeast propagates by .....

A. Cutting

B. Grafting

C. Fragmentation

D. Budding

Answer:

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26. The cross pollination within the same species is also called as .....

A. hybridization

B. xenogamy

C. allogamy

D. autogamy

Answer:

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27. In Angiosperms free nuclear division compulsorily take place during .....

A. Endosperm development

B. Female gametophyte development

C. Embryo development

D. Male gametophyte development

Answer:


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28. In recently fertilized ovule the haploid, diploid and triploid conditions are respectively seen in .....

A. Endosperm, nucellus, egg

B. Egg, nucellus, endosdperm

C. antipodals, zygote, PEN

D. Pollar nuclei, secondary nucleus, endosperm.

Answer:

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29. Describe the development of male gametophyte in Angiosperms.

A. Parthenogenesis

B. Dormancy

C. Apomixis

D.

Answer:

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30. Name the nuclei taking part in triple fusion.

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31. State the type of endosperm found in Balsam seed.

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32. Enlist the adaptations in hydrophilous flowers.

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33. What is pollen-Pistil Interaction?

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34. Describe any two categories of apomixis.

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35. Exaplain the common method of asexual reproduction in Yeast.

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36. Match the following

Event	Significance
(A) Cross Pollination	(i) Important Propagating Organ
(B) Autogamy	(ii) Restores Diploid Condition
(C) Double Fertilization	(iii) Offsprings are genetically identical to their parents
(D) Seed Development	(iv) Generates genetically varied offsprings

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37. Describe in brief the outbreeding devices observed in disc floret of sunflower and Primula flower.

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38. With a suitable diagram explain the process of development of male gametophyte.

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39. Describe the process of double fertilization.

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40. Explain development of dicot embryo.

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