

BIOLOGY

BOOKS - MBD BIOLOGY (ODIA ENGLISH)

SEXUAL REORODUCTION IN FLOWERING PLANTS

Question Bank

- **1.** Parthenocarpic tomato fruits can be produced by:
 - A. Treating the plants with phenylmercuric acetate
 - B. Removing androecium of flowers before pollen grains are released
 - C. Treating the plants with low concentrations of gibberellic acid and auxins

D. Raising the plants from vernalized seeds

Answer: C



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2. How many meiotic divisions should take place to produce 100 pollen grains?

A. 25

B. 50

C. 100

D. 200

Answer: A



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3. The arrangement of the nuclei in a normal embryo sac in the dicot plants is

A. 3+3+2

B. 2+4+2

C.3+2+3

Answer: C



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4. What is the number of chromosomes in aleurone layer if 10 number of chromosomes are found in megaspore mother cell?

A. 5

B. 10

C. 15

D. 20

Answer: C



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5. Grafting is successful in dicots but not in monocots because the dicots have:

A. Vascular bundles arranged in a ring

B. Cambium for secondary growth

C. Vessels with elments arranged end to end

D. Cork cambium

Answer: B



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6. A scion is grafted to a stock . The quality of fruits produced will be determined by the genotype of :

- A. Stock
- B. Scion
- C. Both stock and scion
- D. Neither stock or scion

Answer: B



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7. Plants of which one of the following groups of genera are pollinated by the same agency?

- A. Triticum ,Cocos, Mangifera
- B. Ficus, Kigelia, Casuarina
- C. Salvia, Morus Euphorbia
- D. Bombox, Butea, Bauhinia

Answer: D



- 8. In nature, cleistogamous flowers are:
 - A. self-pollinated

- B. Insect-pollinated
- C. Wind-pollinated
- D. Bird-pollinated

Answer: A



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9. In the angiosperm ovule central cell of the , embryo sac, prior to the entry of pollen tube, contains:

- A. A single haploid nucleus
- B. One diploid and one haploid nucleus
- C. Two haploid polar nuclei
- D. One diploid secondary nucleus

Answer: C



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10. From which cells of embryo plumule is produced?

- A. Proembryo
- B. Hypophysis
- C. Apical octant
- D. Micropylar octant

Answer: C



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11. In these plants artificial vegetative reproduction is possible through cuttings of root:

- A. Lemon and rose
- B. Rose and Hibiscus
- C. Tamarind and Chrysanthemum
- D. Lemon and tamarind

Answer: D



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12. From which cells peripheral region of radical is produced ?

- A. Vegetative cell
- B. Hypophysis
- C. Apical octant
- D. Micropylar octant

Answer: B



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13. Name the process of embryo sac formation from cell of nucellus, without undergoing meiosis.

B. Incompatibility C. Parthenocarpy D. Parthenogenesis **Answer: D Watch Video Solution 14.** Mesogamy is: A. Fusion of male and female gametes

A. Polyembryony

- B. Fusion of physiologically similar and morphologically different gametes
- C. Entry of pollen tube through integuments
- D. None of the above

Answer: C



15.	Nucellus	froms	which	of	the	following	part
of	fruit ?						

- A. Seed coat
- B. Perisperm
- C. Seed
- D. Raphe

Answer: B



- **16.** Pappus is present in compositae for :
 - A. Air dispersion
 - B. Insect pollination
 - C. Water pollination
 - D. None of the above

Answer: D



17. Number or chormosome in an angiospermic plant is 14, then the number of chromosome in synergid cells will be:

A. 14

B. 7

C. 18

D. 21

Answer: B



18. Double fertilization is the process in the plants that includes

- A. Syngamy and triple fusion
- B. Only triple fusion
- C. Development of antipodal cells
- D. None of the above

Answer: A



19. Which statement is true for angiosperms?

A. Microspore is the resultant of mitotic division

B. Microspore is the 1st cell of gametophytic generation

C. Microspore is the resultant of double fertilization

D. Microspore is the first cell of endosperm

Answer: B



20. Unisexuality of flowers prevents:

- A. Geitonogamy, but not xenogamy
- B. Autogamy and geitonogamy
- C. Autogamy, but not geitonogamy
- D. Both geitonogamy and xenogamy

Answer: C



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

A. Nucelus and antipodal cells

B. Egg nucleus and secondary nucleus

C. Megaspore mother cell and antipodal

cells

D. Egg cell and antipodal cells

Answer: D



22. Which of the following shows triploid nature in flowering plants?

A. megaspore

B. microspore

C. embryo

D. endosperm

Answer: D



23. Which one of the following is not a device to promote cross-pollination?

- A. Cleistogamy
- B. Heterostyle
- C. Herkogamy
- D. Dichogamy

Answer: A



24. Choose the mis-matched option.

A. wind-Cannabis-anemophily

B. water-Zoostera-hydrophily

C. insects-Salvia-entomophily

D. birds-Adansonia-ornithophily

Answer: D



25. A typical angiosperm embryo sac at maturity is :

- A. 4 nucleate-2 celled
- B. 8 nucleate-7 celled
- C. 4 nucleate 4celled
- D. 8 nucleate 4 celled

Answer: B



26.	Ornithophily	refers	to	the	pollination	by
wh	ich of the follo	owing?				

- A. Insects
- B. Birds
- C. Snails
- D. Air

Answer: B



27 .	Vegetative	propagation	in	mint	occurs	hv	•
~ /.	vegetative	propagation	111	1111111	occui 3	Dy	•

- A. Offset
- B. Rhizome
- C. Sucker
- D. Runner

Answer: C



28. The water of green coconut is:

A. Liquid endosperm

B. Seed

C. Mesocarp

D. Endocarp

Answer: A



29. The hilum and micropyle lie side by side very close to each other in :

- A. Anatropous ovule
- B. Campylotropous ovule
- C. Amphitropous ovule
- D. Circinotropous ovule

Answer: A



30. Embryo	axis	above	the	cotyledon	is	celled
as:						

- A. Epicotyl
- B. Hypocotyl
- C. Funicle
- D. Raphe

Answer: A



31. Fusion of male gamete with polar nuclei of embryo sac is known as :

- A. Double fertilization
- B. Embryogeny
- C. Pollination
- D. Triple fusion

Answer: D



32.\	Vegetative	fertilisation	is	also	${\sf called}$:
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- A. Triple fusion
- B. True fertilisation
- C. Syngamy
- D. Generative fertilisation

Answer: A



33. In which of the following kinds of ovules, the embryo sac is horse-shoe shaped?

- A. Hemotropous ovule
- B. Orthotopous ovule
- C. Amphitropous ovule
- D. Circinotropous ovule

Answer: C



34. The	residual	persistent	nucellus	is	known
as:					

- A. Perisperm
- B. Pericarp
- C. Integument
- D. None of the these

Answer: A



35. Which one is female gametophyte?

- A. Carpel
- B. Ovule
- C. Embryo sac
- D. Egg

Answer: C



36. Mode of vegetative propagation in Pistia.

- A. Stolon
- B. Offset
- C. Runner
- D. Sucker

Answer: B



37. The egg apparatus of angiosperm 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: B



38. Transfer of pollen grains from anther to stigma of the same flower.

- A. Geitonogamy
- B. Xenogamy
- C. Autogamy
- D. Apogamy

Answer: C



39. When pollens are transferred from anther of a flower to stigma of another flower of the same plant, pollination is referred to as:

- A. Xenogamy
- B. Geitonogamy
- C. Autogamy
- D. Allogamy

Answer: B



40. Ovule	integument	gets tran	sformed	into:
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- A. Seed
- B. Fruit wall
- C. Seed coat
- D. Cotyledons

Answer: C



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

- A. 42
- B. 63
- C. 84
- D. 21

Answer: B



42. Which one of the following pollination autogamous?

A. Geitonogamy

B. Xenogamy

C. Chasmogamy

D. Cleistogamy

Answer: D



43. In angiosperms, functional megaspore develops into :

A. Embryo sac

B. Ovule

C. Endosperm

D. Pollen sac

Answer: A



44. The presence of filiform apparatus is the characteristic feature of

- A. Suspensor
- B. Egg
- C. Synergid
- D. Zygote

Answer: C



45. Wind	pollination	is	common	in	:
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A. Legumes

B. Lilies

C. Grasses

D. Orchids

Answer: C



46. What is common between vegetative reproduction and apomixis?

A. Both are applicable to only dicot plants

B. Both bypass the flowering phase

C. Both occur round the year

D. Both produce progeny identical to the parent

Answer: D



47. The formation of pericarp takes place from

A. Ovary wall

B. Outer integument

C. Inner integument

D. Placenta

Answer: A



48. Find out the odd on	e.
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- A. Embryo sac
- B. Micropyle
- C. Nucellus
- D. Pollen grain

Answer: D



49. Ovule is	attached	to	placenta	of	ovary	wall
by:						

- A. Funicle
- B. Hilum
- C. Raphe
- D. Chalaza

Answer: A



50. Entry of the pollen tube with two male gametes and tube nucleus through micropyle is called:

- A. Mesogamy
- B. Porogamy
- C. Chalazogamy
- D. Autogamy

Answer: B



51. In case of Bryophyllum, vegetative propagation occurs by adventitious buds developed on :

A. Roots

B. Stem

C. Leaves

D. Flower

Answer: C



52. Which is not a method of artificial vegetative propagation?

- A. Budding
- B. Cutting
- C. Layering
- D. Grafting

Answer: A



53. Which is not associated with sexual reproduction in angiosperms ?

A. Microsporogenesis

B. microgametogenesis

C. Micropropagation

D. Megasporogenesis

Answer: C



54. Apomixis on plant means, development of a plant :

A. By fusion of gametes

B. Without fusion of gametes

C. From stem cutting

D. From root cutting

Answer: B



55. Stem cuttings are employed in the propagation of:

- A. Cotton
- B. Mango
- C. Sugarcane
- D. Brassica

Answer: C



56. Name the process of embryo sac formation from cell of nucellus, without undergoing meiosis.

- A. Apogamy
- B. Apospory
- C. Parthenogenesis
- D. Sporogenesis

Answer: B



57. The major application of embryo culture is in :

A. Production of alkaloids

B. Clonal propagation

C. Overcoming hybridization barriers

D. Induction of somaclonal variation

Answer: C



58. Apomixis on plant means, development of a plant:

A. New organism without fusion of gametes

B. New orgnism from fusion products of gametes

C. Embryo from endosperm

D. Embryo from nucellus

Answer: A



59. In monocots, grafting is almost impossible because they lack:

- A. Cambium
- B. Ground tissue
- C. Vascular bundle
- D. Parenchymatous cells

Answer: A



60. Which of the following can not regenerates with the help of layering?

- A. Cactus
- B. Rose
- C. Mango
- D. Jasmine

Answer: D



61. The true embryo develops from the structure formed as a result of fusion of :

- A. Two polar nuclei of embryo sac
- B. Egg cell and female gamete
- C. Egg cell and male gamete
- D. Male gamete and antipodals

Answer: C



62. Perisperm in angiospermic seeds is derived
from:

- A. Nucellus
- B. Endosperm
- C. Integument
- D. Antipodals

Answer: A



- 63. In ovule meiosis occurs in:
 - A. megaspore
 - B. Megaspore mother cell
 - C. Endosperm
 - D. Sporogonium

Answer: B



64. The fusion product of polar nuclei and male gamete is :

- A. Secondary nucleus
- B. Triple fusion
- C. Primary Endosperm Nucleus
- D. Zygote

Answer: C



65. The secondary nucleus after fusing with one of the two male gametes develops into :

- A. Endosperm
- B. Embryo
- C. Seed
- D. Fruit

Answer: A



66. If an endosperm cell of an angiosperm contains 24 chromosomes, the number of chromosomes in each cell of root will be:

- A. 8
- B. 4
- C. 16
- D. 24

Answer: C



67. Ovule	is a	attache	d to	place	enta	of	ovary	wall
by:								

- A. Pedicel
- B. Petiole
- C. Placenta
- D. Funicle

Answer: D



68. In angiosperms	, embryo	sac represents	:
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- A. Female gametophyte
- B. Sporophyte
- C. Male gametophyte
- D. None of the above

Answer: A



69. When micropyle, chalaza and hilum lie in straight line, the ovule is said to be:

- A. Anatropous
- B. Orthotropous
- C. Amphitropous
- D. Campylotropous

Answer: B



70. In angiosperms, free nuclear division occurs during :

- A. Gamete formation
- B. Endosperm formation
- C. Embryo sac formation
- D. Both (b)and(b)

Answer: D



71. Tapetum	layer	around	pollen	sacs	is	meant
for:						

- A. Dehiscence
- **B. Protection**
- C. Nutrition
- D. None of the above

Answer: C



72.	In	fully	developed	male	gametophyte,
nun	nbe	r of nu	ıclei is :		
	A. O	ne			

B. Two

C. Three

D. Four

Answer: C



73. In a fertilized ovule, n, 2n and 3n conditions occur respectively in :

- A. Antipodal, zygote and PEN
- B. Egg, nucellus and endosperm
- C. Endosperm, nucellus and egg
- D. Antipodals, synergide and integuments

Answer: A



74. Porogamy is entry for pollen tube through
:

- A. Chalaza
- B. Funicle
- C. Micropyle
- D. Integuments

Answer: C



75. Milky water of green cocount is:

- A. Liquid chalaza
- B. Liquid endosperm
- C. Liquid nucellus
- D. Liquid female gametophyte

Answer: B



76. Synergide are:

- A. Hexaploid
- B. Haploid
- C. Diploid
- D. Triploid

Answer: B



77. In anther meiosis occurs in:

- A. Tapetal cells
- B. Endothelial cells
- C. Pollen mother cells
- D. Stromium cells

Answer: C



78. Fusion of egg with male gamete is called	g with male gamete is called	egg with	78. Fusion	78 .
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- A. Syngamy
- B. Apogamy
- C. Autogamy
- D. None of the above

Answer: A



79. Albuminous seeds store their food in _____

- A. Cotyledons
- B. Endosperm
- C. Testa
- D. Plumule

Answer: B



80. Development of fruit without fertilization is called:

- A. Parthenogenesis
- B. Parthenocarpy
- C. Apomixis
- D. Apogamy

Answer: B



81. The egg apparatus of angiosperm comprises:

- A. Egg
- B. Egg and polar nuclei
- C. Egg and synergids
- D. Egg and antipodal cells

Answer: C



82. Germ	pore is	the	region	where	the	exine	is
:							

- A. Thin
- B. Uniform
- C. Thick and uniform
- D. Absent

Answer: A



83. Cleistogamous	condition	is	present in:

- A. Brassica
- B. Solanum tuberosum
- C. Commelina
- D. Allium cepa

Answer: C



84. The arrangement of megaspores in a tetrad in an angiosperm is:

- A. Decussate
- B. Tetrahedral
- C. Linear
- D. Isobilateral

Answer: C



85. Double fertilization in angiosperms was discovered by:

A. Strasburger

B. J.C.Bose

C. Maheswari

D. Nawaschin

Answer: D



86. In a bisexual flower, if androecium and gynoecium mature at different times, the phenomenon is known as:

- A. Herkogamy
- B. Dichogamy
- C. Polygamy
- D. Apogamy

Answer: B



87. Allogamy is best favoured by:

- A. Dichogamy
- **B.** Dicliny
- C. Cleistogamy
- D. Homogamy

Answer: A



88. In an angiosperm, male plant is diploid and female plant tetraploid, endosperm will be :

- A. Haploid
- B. Triploid
- C. Tetraploid
- D. Pentaploid

Answer: D



89. In angiosperms,	embryo s	sac represents	:
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- A. Microgametophyte
- B. Megagametophyte
- C. Microsporangium
- D. Megasporangium

Answer: B



90. The root cell of wheat plant has 42 chromosomes. What would be the number of chromosomes in the synergid cell?

- **A.** 7
- B. 14
- C. 21
- D. 28

Answer: C



91. Anemophilous flowers have:

- A. Sessile stigma
- B. Small smooth stigma
- C. Coloured flower
- D. Large feathery stigma

Answer: D



92. Which among the following are pollinated by bat ?

- A. Salvia
- B. Ophrys
- C. Kigellia
- D. Brassica

Answer: C



- **93.** Double fertilization in angiospermic plants means :
 - A. Fusion of two egg cells with two male gametes
 - B. Fusion of egg cell twice with male gametes
 - C. Fusion of one male gamete with the egg cell and the other male gamete with the synergid

D. Fusion of one male gamete with the egg cell and the other male gamete with the secondary nucleus.

Answer: D



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94. Entry of pollen tube through the chalazal end is called

A. Porogamy

- B. Mesogamy
- C. Basigamy
- D. Syngamy

Answer: C



- 95. Pollination in Triticum plant is:
 - A. Anemophilous
 - B. Hydrophilous

- C. Entomophilous
- D. Zoophilous

Answer: A



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96. Anemophily is pollination affected by :

- A. Water current
- B. Birds
- C. Wind

D. Insect

Answer: C



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97. Triple fusion in angiosperms is the fusion of second sperm with :

- A. One antipodal cell and one synergid cell
- B. Two antipodal cells
- C. Two synergid cells

D. Two polar nuclei

Answer: D



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98. When a diploid female plant is crossed with a tetraploid male, the ploidy of endosperm cells in resulting seed is :

A. Tetraploid

B. Pentaploid

- C. Diploid
- D. Triploid

Answer: A



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99. Total number of nuclei involved in double fertilization in angiosperms are :

- A. Two
- B. Four

C. Five

D. Six

Answer: C



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100. In kilgellia pinnatal / Sausage tree pollination is performed by :

A. Bats

B. Birds

C. Insects

D. Wind

Answer: A



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101. Apple growers usually keep bees in the orchard even through apples are usually windpollinated because:

- A. Wind-pollination result in apples of inferior quality
 - B. Insect- pollination result in apples of superior quality
- C. Wind-pollination may fail at the right time and bees would bring about pollination in such a situation
- D. Bess can inject honey into the apples and make them sweeter

Answer: C

102. Self-pollination means:

- A. Occurrence of male and female sex organs in the same flower
- B. Germination of pollen within the same anther
- C. Transference of pollens from anther to stigma within the same flower

D. Transference of pollen from one plant to

the stigma of a neighbouring plant

Answer: C



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103. Stigma is always rough and sticky in:

A. Entomophilous flowers

B. Anemophilous flowers

C. Hydrophilous flowers

D. All types of flowers

Answer: A



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104. Progeny resulting from cross-pollination :

A. Show greater genetic variability and are evolutionarily important

B. Are homozygous and show phenotypic uniformity

- C. Are always sterile
- D. Always show recessive character

Answer: A



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105. In a bisexual flower, if androecium and gynoecium mature at different times, the phenomenon is known as:

A. Dichotomy

- B. Dichogamy
- C. Hetrrospory
- D. Heterostyly

Answer: B



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106. Pollination by ants is:

- A. Malacophily
- B. myrmecophily

- C. Orithophily
- D. Entomophily

Answer: B



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107. Some flowers possess pleasant odour and attractive colours for :

- A. Hydrophily
- B. Anemophily

- C. Entomophily
- D. All of the above

Answer: C



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108. Anemophily means:

- A. Pollination by wind
- B. Pollination by birds
- C. Pollination by animals

D. Animal loving plants

Answer: A



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109. Wind pollination is common in :

- A. Legumes
- **B.** Lilies
- C. Grasses
- D. Orchids

Answer: C



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110. Which one of the following pollination autogamous?

- A. Geitonogamy
- B. Xenogamy
- C. Chasmogamy
- D. Cleistogamy

Answer: D



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111. Embryo sac is:

A. Microgametophyte

B. Microsporangium

C. Megagametphyte

D. Megasporangium

Answer: C

112. 8-nucleate embryo sac is:

A. Monosporic

B. Bisporic

C. Tetrasporic

D. All of the above

Answer: D



113. A mature male gametophyte is formed from pollen mother cell by:

- A. One meiotic division
- B. Two meiotic divisions
- C. One metiotic and two mitotic divisions
- D. Three meiotic divisions

Answer: C



114. In, pollen tube enters through micropyle into the ovule.

- A. Mesogamy
- B. Porogamy
- C. Dicliny
- D. Dichogamy

Answer: B



115. Polygonum type of embryo sac is :
A. 8-nucleate
B. 16-nucleate
C. 24-nucleate
D. 32-nucleate
Answer: A Watch Video Solution
116. Tapetum occurs in :

- A. Anther wall
- B. Ovary wall
- C. Male gametophyte
- D. Female gametophyte

Answer: A



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117. Which one is produced as a result of double fertilization

- A. Seed
- B. Fruit
- C. Megaspore
- D. Endosperm

Answer: D



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118. A component of female reproductive system is :

- A. Stamen
- B. Anther
- C. Microspore
- D. Embryo sac

Answer: D



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119. Mango and Guava are propagated through:

- A. Tissue culture
- B. Grafting
- C. Stem cuttings
- D. Layering

Answer: B



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120. In a grafted plant, stock has 48 chromosomes while scion has 24

choromosomes. The chromosomes number for root cells and eggs are:

- A. 48 and 24
- B. 24and 24
- C. 24 and 12
- D. 48 and 12

Answer: D



121. Pollen grains are non-green due to:

- A. Absence of plastids
- B. Degeneration of plastids
- C. Conversion of plastids into

chromoplasts

D. Attraction of vectors

Answer: C



122. When a diploid female plant is crossed with a tetraploid male, the ploidy of endosperm cells in resulting seed is :

- A. 2n
- B. 3n
- C. 4n
- D. 5n

Answer: C



123. Multinucleate condition is present in:

- A. Quiescent centre
- B. Maize
- C. Meristematic tissue
- D. Liquid endosperm of Coconut

Answer: D



124. If meioisis occurs inside pollen grain and egg nuclei, it will be:

- A. Zygotic meiosis
- B. Gametic meiosis
- C. Sporic meiosis
- D. None of the above

Answer: B



125. Formation of embryo from vegetative cells derived from zygote is called :

- A. Apomixis
- B. Adventive polyembryony
- C. Apospory
- D. Diploid polyembryony

Answer: B

