



BIOLOGY

BOOKS - JMD BIOLOGY (PUNJABI ENGLISH)

Sexual Reproduction in Flowering Plants

Exercises

1. The ovule of angiosperm technically equivalent to

A. (A) megaspore mother cell

B. (B) megaspore

C. © megasporangium

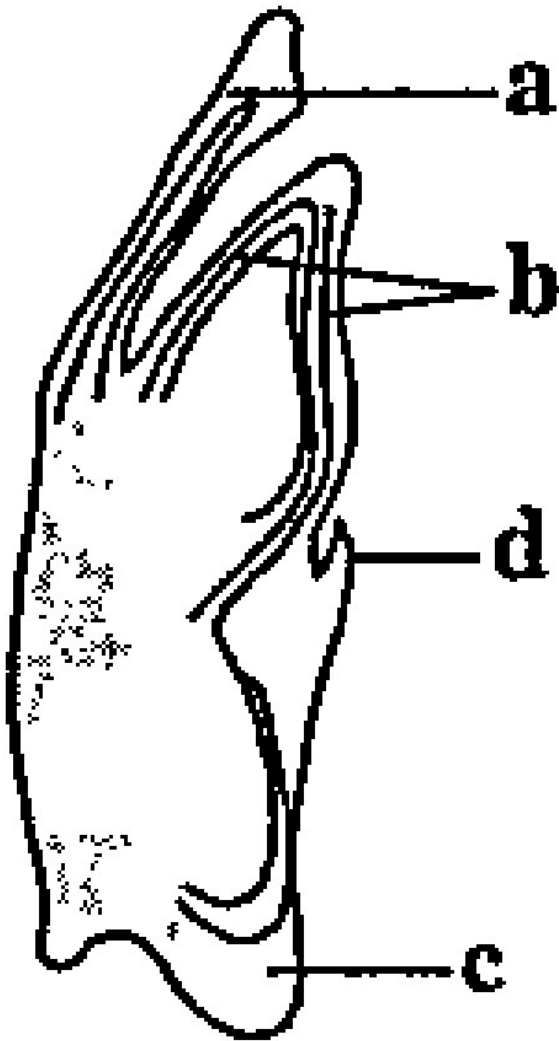
D. (D) mega sporophyll

Answer: C



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2. (Identified the parts labelled a, b, c and d
select the correct option)



A. (A) a - scutellum, b- epiblast, c- coleoptile,
d- coleorhiza

B. (B) a- scutellum, b- colerhiza, c-
coleoptile, d- epiblast

C. (C) a- scuettellum, b- coleoptile, c-
coleorhiza, d- epiblast

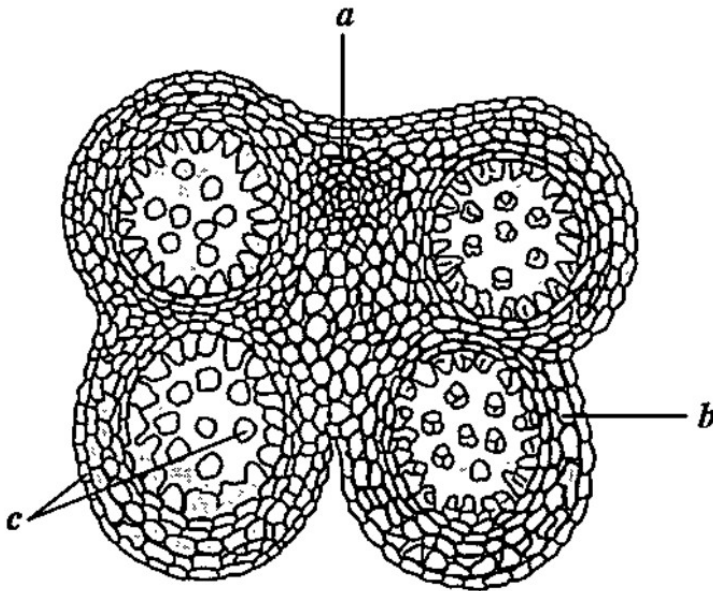
D. (D) a - epiblast, b- coleoptile, c -
coleorhiza, d- scuettellum

Answer: C



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3. (In T.S. anther, identify a, b and c)



A. (A) a - connective, b - pollen grains, c -
endothecium

B. (B) a - endothecium, b - connective, c -
pollen

C. (C) a - pollen grains, b - connective, c -
endothecium,

D. (D) a - endothecium, b - pollen grains, c -
connective.

Answer: A



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4. After double fertilization, a mature ovule has

- A. (A) One diploid and one haploid cell
- B. (B) One diploid and one triploid cell
- C. (C) Two haploid and one triploid cell
- D. (D) One haploid and one triploid cell

Answer: B



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5. A dioecious flowering plant prevents both

A. (A) Cleistogamy and xenogamy

B. (B) Autogamy and xenogamy

C. (C) Autogamy and Geitonogamy

D. (D) Geitonogamy and xenogamy

Answer: C



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6. Double fertilization is exhibited by

A. (A) Angiosperms

B. (B) Gymnosperms

C. (C) Algae

D. (D) Fungi

Answer: A



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7. Attractants and rewards are required for

A. (A) Cleistogamy

B. (B) Anemophily

C. (C) Entomophily

D. (D) Hydrophily

Answer: C



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8. Functional megaspore in an angiosperm develops into

A. (A) Embryo

B. (B) Ovule

C. (C) Endosperm

D. (D) Embryo sac

Answer: D



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9. Flower which have single ovule in the ovary and are packed into inflorescence are usually polinated by

A. (A) Bat

B. (B) Water

C. (C) Bee

D. (D) Wind

Answer: D



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10. Which one of the following plants shows a very close relationship with a species of moth,

where none of the two can complete its life cycle without the other?

A. (A) Yucca

B. (B) Banana

C. (C) Hydrilla

D. (D) Viola

Answer: A



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11. Double fertilization is

A. (A) Fusion of one male gamete with two polar nuclei

B. (B) Fusion of two male gametes with one egg

C. (C) Fusion of two male gametes of a pollen tube with two different eggs

D. (D) Syngamy and triple fusion

Answer: D



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

A. (A) Cellulosic intine

B. (B) Oil content

C. (C) Pollenkitt

D. (D) Sporopollenin

Answer: D



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

A. (A) -80°C

B. (B) -196°C

C. (C) -120°C

D. (D) -160°C

Answer: B



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14. To obtain seedless watermelon, which among the following method is followed :

- A. (A) Apomixis
- B. (B) Somatic hybridization
- C. (C) Organogenesis
- D. (D) Micropropagation

Answer: B



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15. Which of the following group does not represent monocot, Apicot mango, guava, apple, coconut, strawberry?

- A. (A) Apricot, mango, Guava
- B. (B) Apple, strawberry, coconut
- C. (C) Coconut, strawberry, mango
- D. (D) Coconut, strawberry, mango

Answer: A



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16. Polidy level of Nucellus, endosperm, polar nuclei, Megaspore mother cell, female gametophyte respectively are

- A. (A) $2n, 3n, n, 2n, n$
- B. (B) $2n, 3n, 2n, n, n$
- C. (C) $n, 2n, n, 2n, n$
- D. (D) $2n, 3n, 2n, 2n, n$

Answer: A



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17. Which of the following is false fruit?

- A. (A) Groundnut
- B. (B) Mustard, Mango
- C. (C) Citrus
- D. (D) Apple, Strawberry

Answer: D



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18. In some plants, the female gamete develops into embryo without fertilization.

This phenomenon is known as :

- A. (A) Parthenocarpy
- B. (B) Syngamy
- C. (C) Parthenogenesis
- D. (D) Autogamy

Answer: C



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19. Which of the following statements regarding post fertilization development in flowering plants is incorrect

- A. (A) Zygote develops into embryo
- B. (B) Central cell develops into endosperm
- C. © Ovules develop into embryo sac
- D. (D) Ovary develops into fruit

Answer: C



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20. Due to increasing air-borne allergens and pollutants many people in urban areas are suffering from respiratory disorder causing wheezing due to :

A. (A) inflammation of bronchi and and bronchioles

B. (B) proliferation of fibrous tissues and damage of the alveolar walls

C. (C) reduction in the secretion of surfactants by pneumocytes

D. (D)benign growth on mucouslining of nasal cavity.

Answer: A



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

A. (A) All fuses with the egg .

B. (B) One fuses with the egg other(s)
degenerates(s) in the synergid.

C. (C) One fuses with egg and other fuses
with central cell nuclei

D. (D) One fuses with the egg other(s)
degenerate(s) in the synergid.

Answer: C



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22. Persistent nucellus in the seed is known as

:

A. (A) Perisperm

B. (B) Hilum

C. (C) Tegmen

D. (D) Chalaza

Answer: A



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23. The process of removal of anther from the flower bud before it dehisces is called as

A. (A) Emasculation

B. (B) Bagging

C. (C) Embryo rescue

D. (D) Budding

Answer: A



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24. Which of the following is not found on maize seed ?

A. (A) Coleorhiza

B. (B) Coleoptile

C. © Scutellum

D. (D) Perisperm

Answer: D



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25. Fill in the blanks

Rearing flower is called as _.



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26. Fill in the blanks

The long and slender stalk of stamen is _.



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27. Fill in the blanks

The anther is consisting of four _.



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28. Fill in the blanks

The pollen grains represent the _____ gametophyte.



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29. Fill in the blanks

Pollen grain losses vaibility in rice within _____ minutes.



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30. Fill in the blanks

Opposite the micropylar end of ovule is the _ .



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31. Fill in the blanks

A typical angiosperm embryo sac at maturity has _ nucleated and _ celled.



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32. Fill in the blanks

Wind pollination is quite common in _ and _.



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33. Fill in the blanks

Continued self pollination results in _
depression.



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34. Fill in the blanks

Guava, orange and mango are _ fruit.



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35. True and False Type Questions

Occurance of more than one embryo in a seed is polyembryony.



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36. True and False Type Questions

Orchid fruit has only one large seed.



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37. True and False Type Questions

Orbanche and striga nare parasite plants.



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38. True and False Type Questions

In grass family the cotyledons are called scutellum.



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39. True and False Type Questions

Filiform apparatus is developed in antipodal cells.



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40. True and False Type Questions

Generative cell divides and form a male gamete.



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41. True and False Type Questions

Exine get modify into pollen tube.



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42. True and False Type Questions

Yucca plant get polinated by honey bee.



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43. True and False Type Questions

Inner wall of the pollen grain is composed of cellulose and pectin.



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44. True and False Type Questions

A typical angiosperm anther is bilobed.



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45. Name the parts of angiospermic flower in which development of male and female gametophytes takes place ?



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46. Define geitonogamy



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47. Define Ornithophily.



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48. Define mesogamy.



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



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50. Write four characteristics of wind pollinated flowers.



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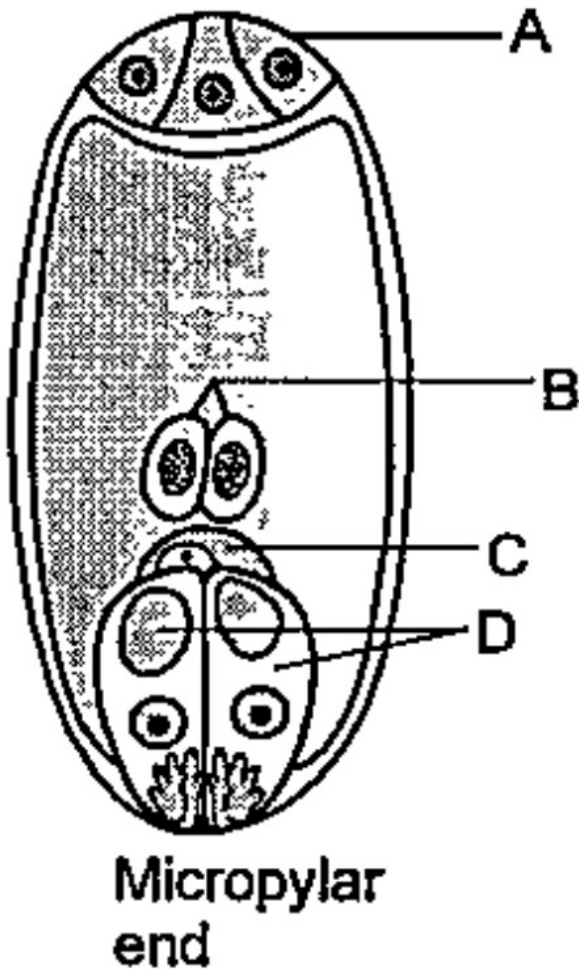
51. Write any four differences between apocarpous and syncarpous ovary.



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52. (Observe the diagram given below and answer the following questions :

What does this diagram depict ?



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53. What is self pollination ? Mention the types of self pollination.



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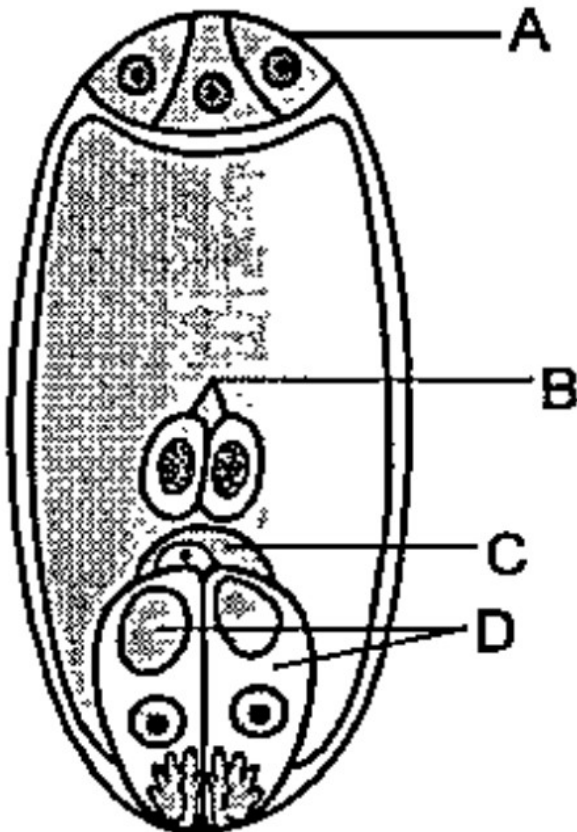
54. What is triple fusion ? Where and how does it take place ? Name nuclei involved in triple fusion.



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55. (Observe the diagram given below and answer the following questions :

What does this diagram depict ?



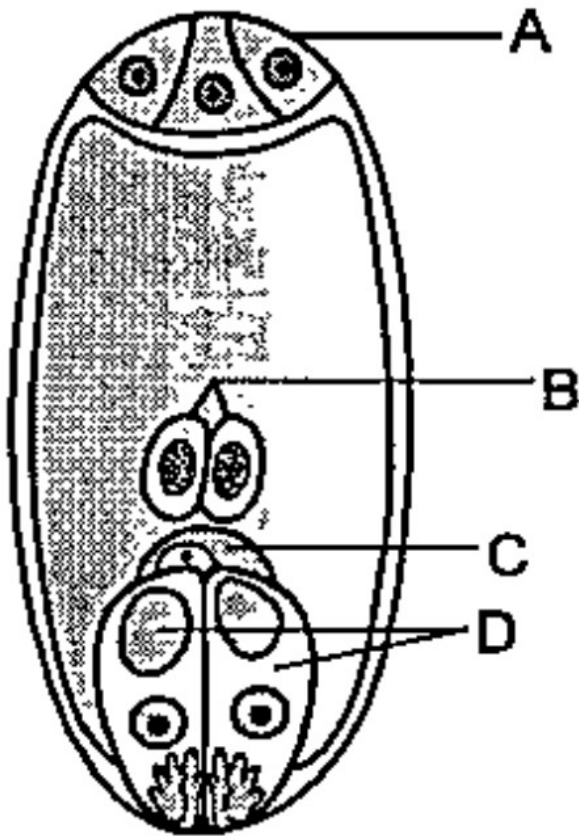
**Micropylar
end**



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56. (Observe the diagram given below and answer the following questions :

What does this diagram depict ?



Micropylar
end



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57. What is meant by Monosporic development of female gametophyte ? Explain the development of female gametophyte with well labelled diagrams.

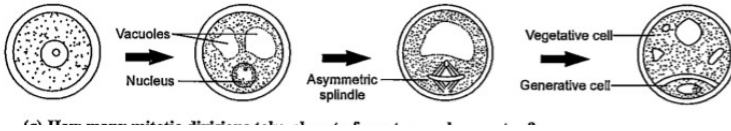


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58. With the reference to the following figure of stages of a microspore maturing into a pollen grain, answer the question.

How many mitotic division take place to form

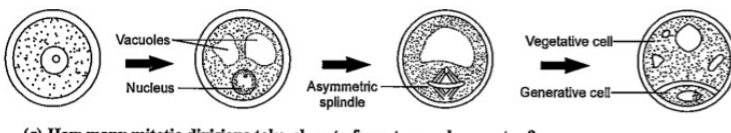
two male gametes ?



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59. With the reference to the following figure of stages of a microspore maturing into a pollen grain, answer the question.

What is the ploidy level of vegetative or tube cell and generative cell ?

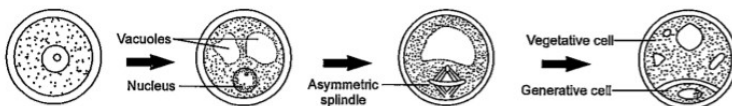




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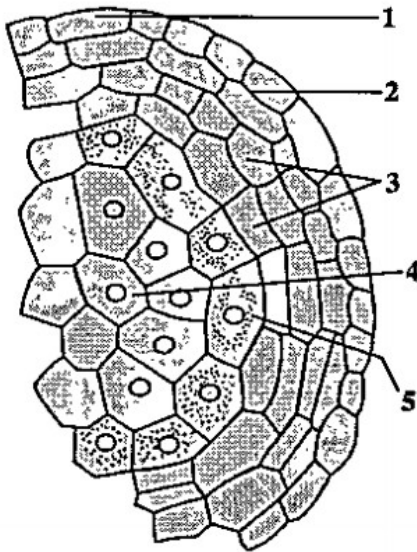
60. With the reference to the following figure of stages of a microspore maturing into a pollen grain, answer the question.

How many meiotic divisions occurs in the formation of two male gametes ?



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61. Consider the parts labelled in 1, 2, 3, 4, and 5 respectively in the following diagram of skull and find out the correct sequence :



A. (a) 1 - Tapetum, 2 - Endothecium, 3 - Middle layers, 4 - Microspore mother

cells, 5 - EPIDERMIS

B. (b) 1 - Endothecium, 2 - Epidermis, 3 -

Middle layers, 4 - Microspore mother cell,

5 - Tapetum

C. (c) 1 - Epidermis, 2 - endothecium, 3 -

Middle layers, 4 - Tapetum 5 - Microspore

mother cell

D. (d) 1 - Epidermis, 2 - Endothecium, 3 -

Middle layers, 4 - Microspore mother

cells, 5 - Tapetum

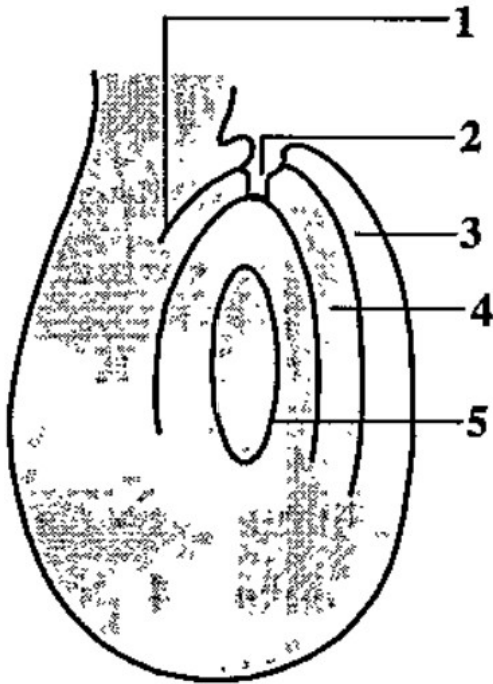
Answer:



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62. Consider the parts labelled in 1, 1, 3, 4, and 5 respectively in the following diagram of anatropous ovule and find out the correct

sequence:



A. (a) 1 -Funicle, 2 - Micropyle, 3 - Outer Integument, 4 - Inner Integument, 5 - Embryo sac

B. (b) 1 - Hilum, 2 - Micropylar pole, 3 - Outer Integument, 4 - Inner Integument, 5 - Embryo sac

C. (c) 1 - Hilum, 2 - Micropyle, 3 - Outer Integument, 4 - Inner Integument, 5 - Embryo sac

D. (d) 1 - Hilum, 2 - Micropyle, 3 - Outer Integument, 4 - Inner Integument, 5 - Nucellus

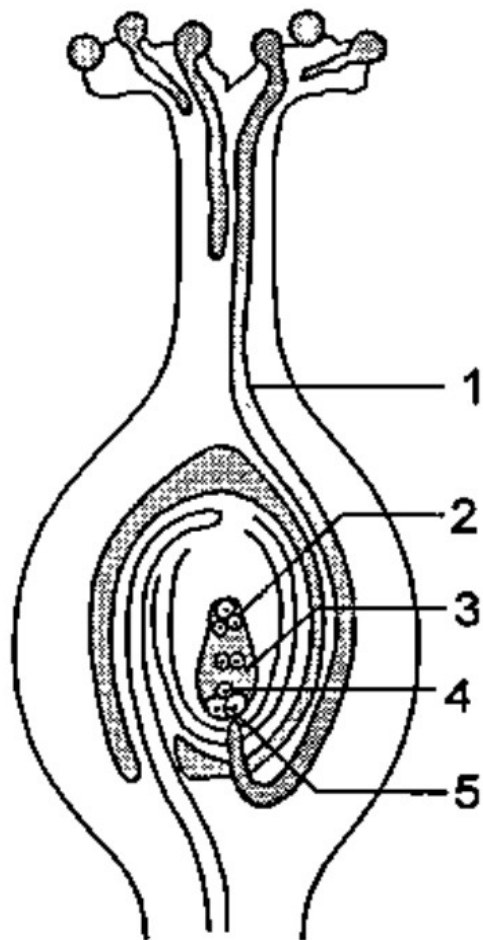
Answer:



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63. Consider the parts labelled in 1, 2, 3, 4, and 5 respectively in the following diagram of longitudinal section of flower showing growth of pollen tube and find out the correct

sequence :



- A. (a) 1 - Antipodal, 2 - Pollen tube, 3 - Polar nuclei, 4 - Egg cell, 5 - Synergid
- B. (b) 1 - Pollen tube, 2 - Polar nuclei, 3 - Antipodal, 4 - Egg cell, 5 - Synergid
- C. (c) 1 - Pollen tube, 2 - Antipodal, 3 - Polar nuclei, 4 - Egg cell, 5 - Synergid
- D. (d) 1 - Pollen tube, 2 - Antipodal, 3 - Polar nuclei, 4 - Synergid, 5 - Egg cell

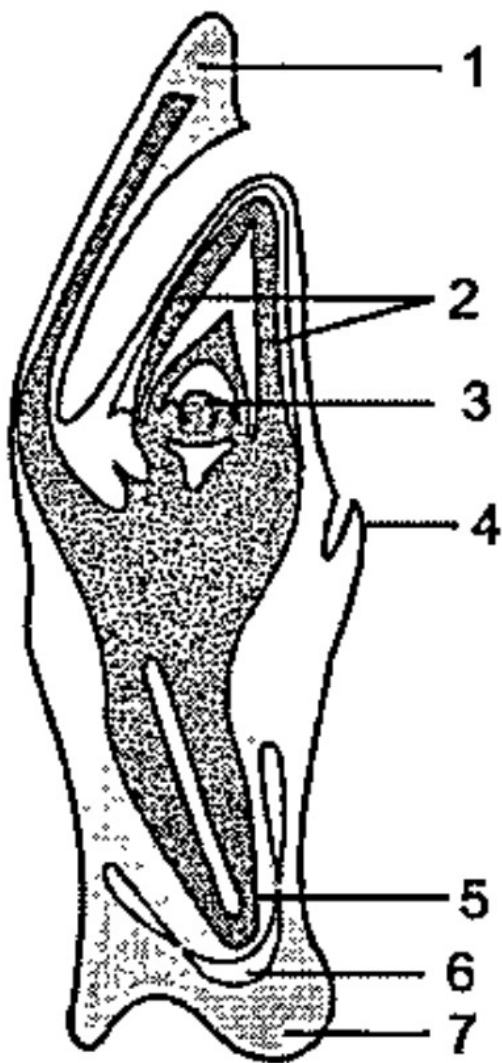
Answer:



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64. Consider the parts labelled in 1, 2,3, 4, and 5 respectively in the following diagram of L.S. of an embryo of grass and find out the correct

sequence :



A. (a) 1 -Scutellum, 2 - Coleoptile, 3 - Plumule, 4 - Radicle, 5 - Root cap

B. (b) 1 -Scutellum, 2 - Coleoptile, 3 - Plumule, 4 - Epiblast, 5 - Radicle

C. (c) 1 -Scutellum, 2 - Coleoptile, 3 - Epiblast, 4 - Plumule, 5 - Root cap

D. (d) 1 -Scutellum, 2 - Coleoptile, 3 - Epiblast, 4 - Radicle, 5 - Root cap

Answer:



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