**XII STD - QUESTION BANK**

**BIOLOGY**

**CHAPTER. 1 SEXUAL REPRODUCTION IN FLOWERING PLANTS**

**SESSION - 1**

**1.1 INTRODUCTION, STAMEN, MICROSPORANGIUM AND POLLEN GRAIN**

**LEVEL-0**

1. Which of the following are flowering plants?

a) Thallophytes

b) Bryophytes

c) Angiosperms

d) Pteridophytes

**Key: c**

**Hint:** Angiosperms are the flowering plants bearing flowers and fruits. “Angiosperms” literally = flowering plants; the other groups are non-flowering.

2. Find the incorrect statement from the following

a) Flower is a fascinating organ of angiosperms.

b) Flower is a modified shoot

c) All flowers have both male and female sex organs

d) Flowers are morphological and embryological marvels

**Key: c**

**Hint:** Flowers may be bisexual or unisexual. Not all flowers have both sex organs; many are unisexual (e.g., cucurbits, papaya).

3. The site of sexual reproduction is

a) Leaf

b) Fruit

c) Flower

d) Seed

**Key: c**

**Hint:** The flower is the sexual reproductive structure of angiosperms. Male (stamens) and female (carpels) organs are borne on the flower.

4. Flowers are

1. sites of sexual reproduction
2. morphological and embryological marvels,
3. always solitary (not in inflorescences)
4. of aesthetic/social/religious value.

**Choose the correct combination.**

a) I, II and IV only  
b) I and III only  
c) II, III and IV only  
d) I, II, III and IV  
**Ans: A**  
**Hint/Explanation:** **The text states flowers are morphological/embryological marvels and sites of sexual reproduction, and also have aesthetic/social/religious value. They can be borne on inflorescences, so (III) is false.**

**LEVEL - 1**

5. Identify the incorrect statement

a) To a biologist, flowers are morphological and embryological marvels and are the site of sexual reproduction

b) Floral buds arise from floral primordium

c) A typical angiospermic anther is single lobed

d) The proximal end of filament is attached to thalamus or petal

**Key: c**

**Hint:** Standard anther has two lobes, each with two microsporangia)

6. Choose the correct statement from the following;

a) Unisexual flowers possess only one type of essential floral whorls

b) A typical flower in dicots always possess one type of accessory floral whorls and two type of essential floral whorls

c) Bisexual flowers always possess indistinct accessory organs

d) All of these

**Key: a**

**Hint:** A complete flower has all four whorls; unisexual flowers lack one essential whorl.

7. First whorl among the essential organs of a bisexual flower is

a) calyx

b) corolla

c) androecium

d) gynoecium

**Key: c**

**Hint:** Whorl order from outside: calyx, corolla, androecium, gynoecium; the last two are the essential whorls.

8. Stamen is equivalent to

a) Megasporangium

b) Megasporophyll

c) Microsporophyll

d) Both (a) and (b)

**Key: c**

**Hint:** Stamens bear microsporangia and produce microspores (pollen).

9. Sexual reproduction involves

a) Gamete formation

b) Gamete transfer

c) Gamete fusion

d) All the above

**Key: d**

**Hint:** Sexual reproduction entails formation, transfer and fusion of gametes.

10. The diameter of pollen grain is about

a) 25 – 50 micrometers

b) 20 – 25 micrometers

c) 50 – 80 micrometers

d) 15 – 25 micrometers

**Key: a**

**Hint:** Pollen grains are generally 25–50 μm in diameter**.**

11. Pollen grains of large number of species can be stored for years in

a) Liquid oxygen at –196°C

b) Liquid oxygen at –96°C

c) Liquid nitrogen at –96°C

d) Liquid nitrogen at –196°C

**Key: d**

**Hint:** Pollen can be stored for long durations in liquid nitrogen (−196 °C) (cryopreservation).

12. In Angiosperms, male gametophyte is represented by

a) Microspore mother cell

b) Megaspore

c) Microsporangium

d) Pollen grain

**Key: d**

**Hint:** The pollen grain is the male gametophyte (usually two-celled, sometimes three-celled at shed).

13. The pollen viability period of Rice and in some Rosaceae members respectively is

a) Within 30 minutes and months

b) Several months and 30 minutes

c) Few days and few months

d) Few days in both the cases

**Key: a**

**Hint:** In cereals like rice/wheat, viability ~30 min; in many Rosaceae/Leguminosae/Solanaceae, pollen remains viable for months.

14. Exine of pollen grain is made up of

a) Cellulose

b) Pectocellulose

c) Lignocellulose

d) Sporopollenin

**Key: d**

**Hint:** Exine is composed of sporopollenin, one of the most resistant organic materials; absent over germ pores.

15. If each pollen sac of a typical anther has 16 pollen grains how many meiotic divisions occur in the anther to produce all these pollen grains?

a) 16

b) 8

c) 32

d) 4

**Key: a**

**Hint:** Typical anther has 4 pollen sacs.  
Each MMC meiosis → 4 microspores.  
If each sac has 16 grains → anther has 64 grains → 64/4 = 16 meiotic divisions.

16. Shedding of pollen grains at 3-celled stage and 2-celled stages occur in \_\_\_\_\_ and \_\_\_\_\_% of angiosperms respectively.

a) 50 and 50

b) 40 and 60

c) 60 and 40

d) 70 and 30

**Key: b**

**Hint:** In over 60% angiosperms pollen shed at two-celled stage; in the rest (~40%) at three-celled stage.

17. Generally, each microsporophyll of an angiospermic plant has

a) One microsporangium

b) Many microsporangia

c) Two microsporangia

d) Four microsporangia

**Key: d**

**Hint:** A typical bilobed anther (stamen) bears four microsporangia (one per theca; two thecae per lobe).

18. Pollen products are available in the form of

A) Syrups

B) Creams

C) Tablets

D) Energy shakes

a) A and C b) B and D c) A and D d) All of these

**Key: a**

**Hint:** In western countries, a large number of pollen products in the form of tablets and syrups are available in the market.

**19. The microsporangium of a young anther develops further and becomes:**

a) a pollen sac containing pollen grains  
b) an ovule within the ovary  
c) a microsporophyll  
d) a megasporangium  
**Key:** a  
**Hint:** Each anther has four microsporangia which, on maturation, become pollen sacs containing pollen.

**20. Choose the correct statement from the following:**  
a) A stamen consists of two parts: the anther and the filament.  
b) Stamen is not an essential part of a flower.  
c) The filament carries the pollen grains.  
d) The stamen is part of the accessory floral whorls.  
**Key:** a  
**Hint:** A stamen is composed of an anther and a filament, which are essential parts of the male reproductive organ.

**21. Choose the correct option:**  
a) Anther is made up of four microsporangia)  
b) Microsporangia are found in the style of a flower.  
c) Anther contains the ovules.  
d) Microsporangia produce ovules.  
**Key:** a  
**Hint:** Anther consists of two lobes, and each lobe contains two microsporangia, making four in total.

**22. Identify the correct statement:**  
a) Pollen grains are male gametophytes in plants.  
b) Pollen grains are found in the ovary.  
c) Ovary contains microsporangia)  
d) Pollen grains are produced in the ovules.  
**Key:** a  
**Hint:** Pollen grains are male gametophytes, and they are produced in the anther's microsporangium.

**23. Choose the correct description of a stamen:**  
a) It is a modified leaf.  
b) It is composed of an anther and a pistil.  
c) It is a reproductive organ that produces pollen grains.  
d) It contains both male and female gametes.  
**Key:** c  
**Hint:** The stamen is the male reproductive organ of a flower that produces pollen grains.

**24. What is the function of the filament in a stamen?**  
a) It holds the pollen grains.  
b) It supports the anther.  
c) It produces pollen.  
d) It protects the ovary.  
**Key:** b  
**Hint:** The filament is the stalk that supports the anther, where pollen grains are produced)

**25.** Before a flower becomes visible, the structure that first forms and bears floral buds is called:  
a) Thalamus  
b) Inflorescence  
c) Bract  
d) Peduncle  
**Ans: b**  
**Hint/Explanation**:“**Inflorescences are formed which bear the floral buds and then the flowers*.”* This happens after the decision to flower and associated hormonal/structural changes**.

**26.** The two parts of a flower that develop the most important sexual units are:  
a) Calyx and corolla  
b) Thalamus and receptacle  
c) Androecium and gynoecium  
d) Bracts and pedicel  
**Ans: c**  
**Hint/Explanation:** **The androecium (male) and gynoecium (female) are the reproductive whorls where male and female structures differentiate and develop.**

**27.** The long and slender stalk of a stamen is called the:  
a) Filament  
b) Style  
c) Pedicel  
d) Microsporangium  
**Ans: a**  
**Hint/Explanation:** **A typical stamen has a filament (stalk) and a terminal bilobed** **anther**.

**28.** The terminal, generally bilobed structure of a stamen is the:  
a) Anther  
b) Theca  
c) Pollen sac  
d) Microspore  
**Ans: a**  
**Hint/Explanation:** **the terminal bilobed structure as** **anther**.

**29.** In a young anther, the central mass of compact, homogeneous cells is termed:  
a) Sporogenous tissue  
b) Endothecium  
c) Tapetum  
d) Middle layers  
**Ans: a**  
**Hint/Explanation:** **sporogenous tissue** **occupies the centre of each microsporangium in a young anther**.

**30.** Typical pollen grains are generally spherical and measure about:  
a) 25–50 μm in diameter  
b) 2–5 μm in diameter  
c) 0.25–0.5 mm in diameter  
d) 100–250 μm in diameter  
**Ans: a**  
**Hint/Explanation:** **25–50 μm** is the usual diameter range.

**31.** Identify the innermost layer of the microsporangium wall:  
a) Tapetum  
b) Epidermis  
c) Endothecium  
d) Middle layers  
**Ans: a**  
**Hint/Explanation:** **Wall layers from outside in: epidermis → endothecium → middle layers → tapetum (innermost, nutritive).**

**32.** Formation of microspores from a pollen mother cell via meiosis is called:  
a) Microsporogenesis  
b) Microgametogenesis  
c) Megasporogenesis  
d) Syngamy  
**Ans: a**  
**Hint/Explanation:** **microsporogenesis** **is the microspore formation from PMC through** **meiosis**.

**33.** The cytoplasm of a pollen grain is surrounded by a:  
a) Cell wall only  
b) Plasma membrane  
c) Cuticle  
d) Tonoplast  
**Ans: b**  
**Hint/Explanation:** **The cytoplasm of pollen grain is surrounded by a plasma membrane.**

**LEVEL - 2**

34. During anther maturation, microspores of a tetrad separate primarily due to:  
a) Anther maturation and dehydration  
b) Fertilisation  
c) Meiosis II  
d) Tapetal division  
**Ans: a**  
**Hint/Explanation: As the anthers mature and dehydrate, the microspores dissociate from each other and develop into pollen grains***.*

**35.** Which components collectively provide protection and aid dehiscence of the anther?  
a) Outer three wall layers   
b) Tapetum only  
c) Intine of pollen  
d) Sporopollenin in exine **Ans: a  
Hint/Explanation: The outer three wall layers protect and help in anther dehiscence; tapetum is nutritive.**

**36. Find the incorrect pair**  
a) Exine — sporopollenin-rich, highly resistant  
b) Intine — made of cellulose & pectin  
c) Germ pore — region of sporopollenin thickening  
d) Tapetum — nourishes developing pollen grains  
**Ans: c**  
**Hint/Explanation:** **A germ pore is where sporopollenin is absent (an aperture), not a thickening.**

37. The innermost wall layer of microsporangium is the \_\_\_\_\_

a) Endothecium  
b) Middle layers  
c) Epidermis  
d) Tapetum

**Key: d**

**Hint:** From outer to inner the anther (pollen sac) wall has epidermis → endothecium → middle layers → tapetum; tapetum is innermost and nutritive.

38. There are two parts of a typical \_\_\_\_\_; the long and slender stalk is called \_\_\_\_\_ and the terminal generally bilobed structure is called \_\_\_\_\_.

a) stamen; filament; anther   
b) carpel; style; stigma  
c) stamen; anther; filament  
d) carpel; filament; anther

**Key: a**

**Hint: A stamen has a filament (stalk) and a terminal anther (usually bilobed).**

39. **A typical angiosperm anther is \_\_\_\_\_.**

a) monothecous and bisporangiate  
b) bilobed and tetrasporangiate   
c) trilobed and hexasporangiate  
d) bilobed and bisporangiate

**Key: b**

**Hint: Most angiosperm anthers are bilobed, each lobe with two thecae → four microsporangia)**

40. **The inner wall of pollen grain is called intine.**

a) True   
b) False  
c) True only in wind-pollinated plants  
d) True only at germ pores.

**Key: a**

**Hint: Pollen wall: exine (outer, sporopollenin) and intine (inner, pecto-cellulosic).**

41. **Pollen grain represents the \_\_\_\_\_ generation.**

a) male gametophytic   
b) male sporophytic  
c) microsporocyte  
d) microsporophyll.  
**Key: a**

**Hint: The pollen grain is the male gametophyte (1- or 2-celled at shedding) that produces male gametes.**

42. **Vegetative cell of mature pollen grain is bigger in size and with abundant food reserve.**

a) True   
b) False  
c) True, but only in 3-celled pollen  
d) False; generative cell is larger.

**Key: a**

**Hint: The vegetative cell is larger, vacuolated, and rich in reserves; the generative cell is smaller and spindle-shaped)**

**43.** Which of the following statements is correct about microsporangium?  
a) Microsporangium produces megaspores.  
b) Microsporangium is a site for pollen grain development.  
c) Microsporangium is located in the pistil.  
d) Microsporangium is only found in female reproductive organs**.  
Key: b  
Hint: Microsporangium is the structure in which pollen grains develop in the anther.**

**44.** The development of pollen grains from microspores involves the formation of:  
a) Male gametes  
b) Female gametes  
c) Zygote  
d) Embryo **Key: a  
Hint: Pollen grains are formed from microspores and contain male gametes (sperm cells).**

**45.** Choose the correct sequence of events in the development of a pollen grain:  
a) Microspore → Pollen grain → Male gamete  
b) Microspore → Male gamete → Pollen grain  
c) Microspore → Female gamete → Pollen grain  
d) Male gamete → Pollen grain → Microspore **Key: a  
Hint: Microspores develop into pollen grains, which contain male gametes.**

**46.** What is the role of the pollen grain in fertilization?  
a) It carries the female gamete.  
b) It carries the male gametes to the ovule.  
c) It produces ovules.  
d) It is involved in seed formation. **Key: b  
Hint: The pollen grain contains male gametes that travel to the ovule for fertilization.**

**47.** Which of the following is the correct characteristic of a typical microsporangium?  
a) It is composed of a single layer of cells.  
b) It contains pollen grains before dehiscence.  
c) It is found inside the ovary of a flower.  
d) It produces female gametes**.  
Key: b  
Hint: The microsporangium produces pollen grains, which are released after dehiscence.**

**48.** During microsporogenesis, sporogenous tissue undergoes meiosis to form microspore tetrads. The ploidy of each microspore in the tetrad is  
a) 2n  
b) n  
c) 3n  
d) Varies with species  
**Ans: b**  
**Hint/Explanation:** **Meiosis halves the chromosome number → haploid (n) microspores**.

**49.** Storage of pollen for years for crop breeding is possible by keeping them in liquid nitrogen at approximately:  
a) –80 °C  
b) –20 °C  
c) **–**196 °C  
d) 0 °C  
**Ans: c**  
**Hint/Explanation:** The passage specifies long-term storage in **liquid nitrogen (≈ –196 °C)** enabling **pollen banks** analogous to seed banks.

**50.** In an anther, **a longitudinal groove typically separates the:  
a) Theca**b) Filaments  
c) Pollen grains  
d) Tapetal cells  
**Ans: a**  
**Hint/Explanation:** **The anther is often described with a longitudinal groove running lengthwise,** **separating the theca)**

**51.** A typical angiosperm anther in T.S. appears \_\_\_\_\_\_ and contains \_\_\_\_\_\_ microsporangia at the corners.  
a) Triangular; three  
b) Circular; one  
c) Pentagonal; five  
d) Tetragonal; four  
**Ans: d**  
**Hint/Explanation:** **The anther is four-sided (tetragonal) with four microsporangia, two in each lobe, located at the corners.**

**52.** In some angiosperms, pollen are shed in the 3-celled stage because the generative cell divides mitotically before shedding to produce:  
a) Two male gametes  
b) Two vegetative cells  
c) One male gamete and one vegetative cell  
d) Four microspores **Ans: a  
Hint/Explanation: The session states that in the remaining species (not the >60% that are 2-celled), the generative cell divides to yield two male gametes prior to shedding.**

**LEVEL - 3**

53. **In the centre of each microsporangium a compactly arranged tissue is present, called \_\_\_\_\_.**

a) sporogenous tissue   
b) archesporium  
c) endothecium  
d) connective  
**Key:** a

**Hint: The central sporogenous tissue gives rise to microspore mother cells (MMCs) that undergo meiosis.**

54. **The hard outer layer of pollen grain, called exine, is made up of \_\_\_\_\_.**

a) cutin  
b) lignin  
c) sporopollenin   
d) suberin  
**Key:** c

**Hint: Exine is rich in sporopollenin, one of the most resistant biological materials.**

55. **In pollen grain, exine has prominent apertures called germ pores where sporopollenin is absent.**

a) True   
b) False  
c) True; exine is thickest at pores  
d) False; pores have suberin  
**Key:** a

**Hint: Germ pores are exine thinning/absent regions lacking sporopollenin; the pollen tube emerges here.**

56. **Pollen grains can be stored in liquid nitrogen at −196 °C)**

a) True   
b) False  
c) True only for monocots  
d) True only for a few hours  
**Key:** A

**Hint: Cryopreservation of pollen at −196 °C (LN₂) maintains viability for long-term storage.**

**57.** Germ pores of pollen are best described as:  
a) Thickenings in exine  
b) Pits in intine  
c) Apertures where sporopollenin is absent  
d) Channels through the filament  
**Ans: c  
Hint/Explanation: Germ pores are specialized regions in the exine where sporopollenin is absent, allowing the pollen tube to emerge during germination.**

**58.** Which of the following is true about the dehiscence of the anther?  
a) Dehiscence occurs when the anther splits open to release pollen grains.  
b) Dehiscence is when the anther absorbs water.  
c) Dehiscence results in the formation of the ovule.  
d) Dehiscence occurs before pollen formation**.  
Key: a  
Hint: The dehiscence of the anther is the process through which the pollen grains are released)**

**59.** The process of pollen grain development involves the formation of:  
a) A single-celled male gametophyte.  
b) A multi-celled male gametophyte.  
c) A multi-celled female gametophyte.  
d) A single-celled female gametophyte.  
**Key: b  
Hint: Pollen grain development involves the formation of a multi-celled male gametophyte, which includes two cells: the generative cell and the tube cell.**

**60.** Which of the following is the correct structure of a mature pollen grain?  
a) It contains only a generative cell.  
b) It contains two sperm cells and a tube cell.  
c) It contains the ovule.  
d) It contains the female gametophyte.  
**Key: b  
Hint: A mature pollen grain consists of two sperm cells and a tube cell, which play a role in fertilization.**

**61.** The layer that surrounds the pollen grain and protects it is known as:  
a) Intine  
b) Exine  
c) Endothecium  
d) Sporopollenin **Key: b  
Hint: The exine is the outermost layer of the pollen grain and protects it from environmental stress.**

**62.** Which of the following statements is true regarding the microsporocyte?  
a) Microsporocytes are diploid cells that undergo meiosis to form microspores.  
b) Microsporocytes are haploid cells that divide to form pollen grains.  
c) Microsporocytes are formed inside the ovule.  
d) Microsporocytes are female gametophytes**.  
Key: a  
Hint: Microsporocytes are diploid cells found in the anther that undergo meiosis to produce haploid microspores.**

**63.** Consider pollen viability:

1. Depends on prevailing temperature and humidity
2. Rice and wheat pollen lose viability within 30 minutes
3. Some members of Rosaceae, Leguminosae and Solanaceae maintain viability for months
4. All cereals retain viability for months  
   a) I, II and III only  
   b) I and IV only  
   c) II and IV only  
   d) I, II, III and IV  
   **Ans: a**  
   **Hint/Explanation:** **(IV) is the opposite of the text; cereals (e.g., rice, wheat) have very short viability**

**ASSERTION AND REASON**

64. **Assertion (A):** Petal is a non – essential part of flower.

**Reason (R):** Petal is not directly involved in sexual reproduction.

a) Both (A) & (R) are true, (R) is correct explanation of the assertion.

b) Both (A) & (R) are true, but (R) is not correct explanation of the assertion

c) Assertion is true (R) is false

d) Assertion and Reason both are false

**Key: a**

**Hint: Essential (reproductive) whorls: androecium & gynoecium. Non-essential: calyx & corolla (petals); petals aid attraction, not gamete formation.**

**MATCH TYPE**

65. Match the columns I and II, and choose the correct combination from the options given

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Column I** |  | **Column II** |
| 1) | Proximal end of filament | A) | Tapetum |
| 2) | Innermost wall layer of pollen sac | B) | Attached to the thalamus or petal |
| 3) | Sporopollenin | C) | Most resistant material |
| 4) | Ploidy of the cells of the tetrad | D) | Haploid |

a) 1–B, 2–A, 3–C, 4–D   
b) 1–A, 2–B, 3–D, 4–C  
c) 1–D, 2–C, 3–B, 4–A  
d) 1–C, 2–D, 3–A, 4–B **Key: a**

**Hint: Filament’s proximal end joins thalamus/petal (B); tapetum (A) is innermost; sporopollenin (C) is most resistant; tetrad cells are haploid (D).**

66. Match the following

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Column I** |  | **Column II** |
| A) | Viability of pollen grain in wheat | i) | 2000 years |
| B) | Viability of pollen grain in Solanaceae | ii) | 30 minutes |
| C) | Viability of date palm seeds | iii) | 30 days |
| D) | Viability of lupine seed | iv) | 10,000 years |

a) A – i, B – iii, C – ii, D – iv

b) A – iii, B – i, C – iv, D – ii

c) A – ii, B – iii, C – i, D – iv

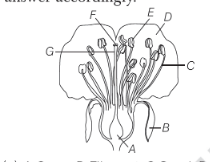
d) A – iv, B – i, C – iii, D –ii

**Key: c**

**Hint:** Wheat pollen is short-lived, often viable for only 30 minutes. Solanaceae pollen (e.g., tomato, potato) can remain viable for up to 30 days under proper conditions. Date palm seeds have shown viability even after 2000 years, as discovered in archaeological sites. Lupine seeds are legendary for their longevity — some have germinated after 10,000 years, making them among the longest-lived seeds ever recorded)

**DIAGRAM QUESTIONS**

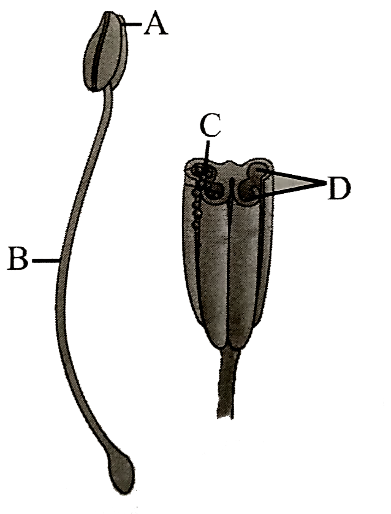
67. In the given diagram of a flower, identify A to G.



1. A-Ovary, B-Filament, C-Sepal, D-Petal, E-Style, F-Stigma, G-Anther
2. A-Sepal, B-Ovary, C-Petal, D-Filament, E-Anther, F-Stigma, G-Style
3. A-Ovary, B-Sepal, C-Filament, D-Petal, E-Anther, F-Stigma, G-Style
4. A-Petal, B-Anther, C-Stigma, D-Style, E-Filament, F-Sepal, G-Ovary

**Key: C**

68. Write down the name of A, B, C and D in the given figure.

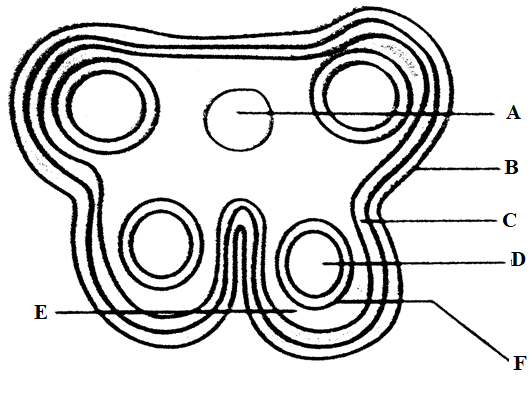


1. A- Anther, B-Filament, C-Pollen grains, D- Pollen sac
2. A–Filament; B–Anther; C–Tapetum; D–Connective
3. A–Anther; B–Pedicel; C–Ovules; D–Locule of ovary
4. A–Anther lobe; B–Style; C–Microspore mother cells; D–Endothecium

**Key: A**

**Hint:** A is the anther (terminal, bilobed); B the filament (stalk). The anther is tetrasporangiate—each lobe bears two pollen sacs (microsporangia) (D) that contain pollen grains/microspores (C) at maturity.

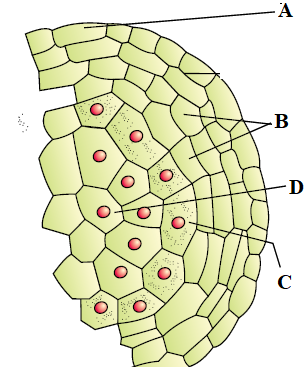
69. The diagram given below shows the transverse section of a young anther. Identify the parts A-F

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1. A-Connective, B-Epidermis, C-Endothecium, D-Sporogenous tissue, E- Middle layers, F- Tapetum
2. A-Epidermis, B-Endothecium, C-Middle Layers, D-Tapetum, E-Sporogenous Tissue, F-Connective
3. B-Epidermis, C-Endothecium, D-Middle Layers, E-Tapetum, F-Sporogenous Tissue, A-Connective
4. B-Epidermis, C-Endothecium, F-Middle Layers, -E-Tapetum, A-Sporogenous Tissue, D-Connective

**Key: a**

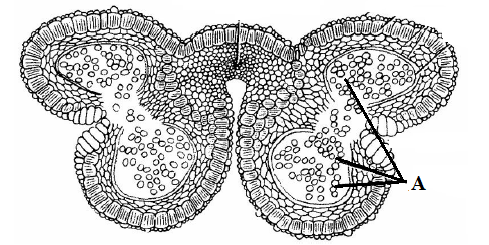
70. The diagram below represents the microsporangium in an enlarged view. Identify the parts labelled from A to D and select the correct option.

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1. A- Epidermis, B- Middle layers, C- Tapetum, D-Microspore mother cells
2. A- Middle layers, B- Tapetum, C- Epidermis, D-Microspore mother cells
3. A- Epidermis, B- Middle layers, C- Microspore mother cells, D- Tapetum
4. A- Endothecium, B- Middle layers, C- Tapetum, D-Microspore mother cells

**Key: a**

71. Identify the labelled structure ‘A’ in the given figure.

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1. Pollen sac
2. Pollen grains
3. Ovules
4. Anther

**Key: b**