The Stamen and the Four-Chambered Anther

Touch a lily and your finger turns orange. Where is that pollen made? Inside the stamen, in an anther with four chambers.

Name: Date: Score: ____ / 18

A. Fill in the blanks

1. A stamen has a filament and an ____.

2. A typical anther has ____ lobes.

3. A typical anther has ____ microsporangia.

4. The innermost wall layer is the ____.

5. Pollen grains form from ____ tissue.

B. True or False

6. The filament is the long, thin stalk. True / False

7. The epidermis is the innermost wall layer. True / False

8. The tapetum nourishes developing pollen. True / False

9. Each lobe of a typical anther has two chambers. True / False

C. Assertion and reason

10. Assertion (A): An anther has four microsporangia.
Reason (R): It has two lobes with two chambers each.

(a) Both A and R are true, and R explains A
(b) Both A and R are true, but R does not explain A
(c) A is true, R is false
(d) A is false, R is true

Answer: _____

11. Assertion (A): The tapetum is close to the developing pollen.
Reason (R): It is the innermost wall layer.

(a) Both A and R are true, and R explains A
(b) Both A and R are true, but R does not explain A
(c) A is true, R is false
(d) A is false, R is true

Answer: _____

D. Choose the correct option

12. The correct order of layers from outside is:

(a) epidermis, endothecium, middle layers, tapetum
(b) tapetum, middle layers, endothecium, epidermis
(c) endothecium, epidermis, tapetum, middle layers
(d) epidermis, tapetum, endothecium, middle layers

Answer: _____

13. Which nourishes pollen grains?

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

Answer: _____

14. Pollen is made inside the:

(a) ovary
(b) anther
(c) stigma
(d) sepal

Answer: _____

15. The centre of a young microsporangium holds:

(a) sporogenous tissue
(b) xylem
(c) the ovule
(d) the stigma

Answer: _____

E. Short answer questions

16. Name the four wall layers of a microsporangium, from outside.

17. What are the two parts of a stamen?

F. Match the columns

18. Match each item in Column A with the correct item in Column B.

Column A	Column B	Your answer
1. Filament	(a) nourishes pollen	1 → ____
2. Anther	(b) pollen chambers	2 → ____
3. Tapetum	(c) stalk	3 → ____
4. Sporogenous tissue	(d) forms pollen	4 → ____

Detailed solutions

1. anther

2. 2

3. 4

4. tapetum

5. sporogenous

6. True. The anther sits on top of it.

7. False. It is the outermost.

8. True. It is the innermost layer.

9. True. 2 lobes × 2 chambers = 4.

10. (a) R explains A.

11. (a) R explains A.

12. (a) epidermis, endothecium, middle layers, tapetum. Outermost to innermost.

13. (d) Tapetum. The tapetum.

14. (b) anther. In the microsporangia.

15. (a) sporogenous tissue. It gives rise to pollen grains.

16. Epidermis, endothecium, middle layers, tapetum.

17. The filament and the anther.

18. 1 → (c), 2 → (b), 3 → (a), 4 → (d). Each part matches its role.