

Anatomy of Flowering Plants

Question1

Which of the following is NOT derived from the epidermal cell layer in plants?

IAT (IISER) 2024

Options:

- A. Subsidiary cells from rice leaf
- B. Trichomes from maize leaf
- C. Casparian strip from rice root
- D. Bulliform cells from grass

Answer: B

Solution:

Casparian strips are suberized structures located on the tangential and radial walls of the endodermis, which is the innermost layer of the root cortex in plants. These strips are not derived from the epidermal cell layer; instead, they are part of the endodermal cells that regulate water and mineral uptake in roots.

Question2

Which one of the following anatomical features of wood can be used to estimate the age of a tree growing in a temperate climate?

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Options:

- A. Spring wood and late wood.

- B. Heart wood and sap wood.
- C. Spring wood and heart wood.
- D. Autumn wood and sap wood.

Answer: A

Solution:

The key lies in the annual growth ring that forms in temperate zones. Each year a tree produces:

a lighter, thin-walled “spring wood” (earlywood)

followed by a darker, thick-walled “late wood” (summerwood)

By counting those spring + late wood pairs you get the tree’s age.

Answer: Option A.
