

Questions and Answer keys of Lect. 8

Check the correct choice

- 1- What is the primary function of stems in plants?
A. Reproduction **B. Support and conduction** C. Photosynthesis
- 2- Which part of the stem is responsible for producing new xylem and phloem cells?
A. Epidermis B. Pith **C. Vascular cambium**
- 3- How does the vascular system differ between monocot and dicot stems?
A. Monocots have rings of phloem, while dicots have scattered vascular bundles.
B. Dicots have rings of xylem, while monocots have continuous vascular tissue.
C. Monocots lack phloem, while dicots have scattered xylem bundles.
D. Dicots lack vascular tissue entirely.
- 4- Which part of the stem elongates after embryo growth into an axis, forming the stem?
A. Cotyledon **B. Epicotyl** C. Hypocotyl D. Radicle
- 5- What type of stem habit is characterized by having one main trunk and being usually taller than 3.5 meters?
A. Herbaceous B. Shrub **C. Tree** D. Weak stem (Vine)
- 6- What is the primary function of the vascular cambium in plants?
A. Photosynthesis
B. Reproduction
C. Production of new xylem and phloem cells
D. Protection against pathogens
- 7- Which type of stem modification functions as a storage and protective organ underground?
A. Rhizomes B. Corms C. Cladodes **D. Tubers**

8- What distinguishes weak stems from other types of stems?

- A. They lack vascular tissue. B. They are always aerial.
C. They have long trailing stems. D. They produce flowers.

9- Which underground stem modification is characterized by having a solid mass of stem tissue with a terminal bud on top?

- A. Tubers B. Rhizomes C. Bulbs **D. Corms**

True or False:

- 1- The vascular cambium is responsible for producing new xylem and phloem cells in both roots and stems of dicot plants. **T**
2- Cladodes are aerial stems that function solely for support and do not engage in photosynthesis. **F**
3- Bulbs are compressed underground stems surrounded by fleshy scales that envelop a central bud. **T**
4- The ring of phloem in dicot stems is near the center and eventually becomes part of the heartwood. **F**
5- Modified stems such as tubers, rhizomes, bulbs, and corms are examples of aerial stem modifications. **F**
6- Vines with twining habits circle a structure for support using aerial roots. **F**
7- Monocot stems typically have a continuous vascular system with scattered vascular bundles. **T**
8- The primary function of a cladode is photosynthesis, and it resembles and functions as a leaf. **T**
9- Bulbs are elongated, compressed underground stems with a terminal bud. **F**

Enumerate:

1- types of underground stems?

- 1- Tubers
2- Rhizomes
3- Bulbs
4- Corms

2- Name the stem habit types mentioned in the text.

- 1- Trees
2- Shrubs
3- Herbaceous or succulent stems
4- Weak stems (Vines)

3- Name the components of the vascular system found inside the stem.

- 1- Xylem
- 2- Phloem
- 3- Vascular cambium

4- Identify the types of weak stem habits mentioned in the text.

- 1- Twining vines
- 2- Climbing vines

4- List the parts of a stem.

- 1- Shoot tip
- 2- Node
- 3- Internode
- 4- Bud (Terminal bud)